

FINANCIALLY SUSTAINABLE UNIVERSITIES

TOWARDS FULL COSTING IN EUROPEAN UNIVERSITIES



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FINANCIALLY SUSTAINABLE UNIVERSITIES

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AN EUA REPORT

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The financial sustainability of Europe's universities

FOREWORD



Professor Georg Winckler
EUA President

The financial sustainability of Europe's universities is of crucial importance to the future of the European knowledge-based society and, therefore, to the European University Association. With this project report EUA aims to stimulate the debate with analysis of funding and financing from the institutional perspective. As an independent voice of Europe's universities in Brussels, EUA attaches highest priority to this issue as an essential requirement for Europe's universities to meet the challenge of the "Modernisation Agenda" for universities under discussion with governments at both the national and European level.

Only institutions that know the full costs of their activities and projects can judge if they are able to operate on a financially sustainable basis. Financial sustainability comprises all aspects of the university mission and EUA plans to address all relevant aspects of this issue individually in further projects and activities.

The project significantly reveals the importance of university autonomy in its various forms in achieving financial sustainability. We believe that strong universities with a greater autonomy and accountability rather than universities over-regulated by national and European governmental agencies will be better able to play their full part in responding to a changing society and its demands and in contributing to the achievement of a globally competitive European Higher Education and Research Area.

The project provides an analysis of the current state of both understanding and development of "full costing" in higher education institutions in selected European universities and countries and identifies the drivers, benefits and obstacles in this process. Importantly, it makes recommendations for action on the part of all major stakeholders - universities, national governments and the European Commission.

Finally, I would like to thank the universities and their expert staff who participated in this pioneering project and contributed to its findings through their provision of empirical evidence and their enthusiasm for this worthy endeavour. We look forward to taking forward the fruits of their hard work for the benefit of our wide university membership in new EUA initiatives in the near future.

A handwritten signature in dark ink, appearing to read 'Georg Winckler'.

Professor Georg Winckler
EUA President

The EUA would like to thank

ACKNOWLEDGEMENTS

Many persons from across Europe's universities have contributed generously to the success of this project. We are indebted greatly to the members of the steering committee and the project experts for providing a sound empirical basis for this report through not only their collecting a large amount of institutional data, but also for comparing and analysing this data and providing practical experience.

Special thanks go to EUA Board and Council members and the external consultants and advisors who provided guidance, support and expertise at different stages of the project to complement the projects' existing cases and to allow for further comparison of initial findings.

EUA appreciated greatly the support and contribution of HUMANE, the Heads of University Management and Administration network, for consulting with its membership on this project and for providing further case studies and data.

Finally, and most importantly, we thank the two respective chairmen of the steering committee, Jaak Aaviksoo, former rector of the University of Tartu, Estonia, and former EUA Board member, who was both the inspiration and driving force in establishing the project and Michael Yuille, Finance Director of the University of Liverpool, United Kingdom, who steered the project to its successful conclusion.

We are grateful to the European Commission for providing the majority of funding for this project through its Socrates programme. EUA would also like to thank the Estonian Rectors' Conference for their support which was made possible through a grant from the Estonian Ministry of Education and Research.

John Smith
Deputy Secretary General, EUA

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Senior Programme Manager, EUA

Hanna Kanep
Programme Manager, Estonian Rectors' Conference

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Executive summary and recommendations

Executive summary

Introduction and background

Demands and expectations on universities both in teaching and research are growing rapidly. However public investment in Higher Education in the European Union member states is less than its competitors. The costs of universities' activities are rising and hence the financial sustainability of their missions will certainly be the primary issue of concern for universities in the 21st century. The first step in responding to these pressures is for universities to identify the real costs of their activities. The European University Association has conducted this project to examine European universities' progress towards this first goal and the relationship between this progress and individual universities' autonomy and accountability. The project has been undertaken with the support of the Directorate-General for Education and Culture of the European Commission.

Since 2005, EUA had been examining the issues of funding, autonomy and accountability through engaging its members, some 800 European universities in 46 countries and 35 national rectors' conferences, in launching an evidence-based debate on improving and updating funding structures. Conferences, workshops and projects assessed the status of system changes for funding and analysed various European funding and costing models.

The objectives of this study are to provide information and empirical data for the debate on financial sustainability from an institutional perspective, analyse the status quo of the development of full costing and the relationship between autonomy and accountability and financial sustainability.

The report addresses several parties and includes policy recommendations as well as practical advice for universities. The recommendations to universities, national governments, and European institutions are listed at the end of this executive summary.

Summary of Findings

Impact of Terminology

A major obstacle in comparing data has been the absence of a commonly understood terminology for finance, costing and accounting and costing systems in higher education in Europe. Financial data from each case study required detailed analysis to be sure of what was covered by certain terms used, or to take account of the varying financial contexts (differing tax regimes; depreciation; insurance rules, etc).

The institution-by-institution approach combined with a careful analysis of the results led to an in-depth understanding of how costing terms are interpreted in different countries, which revealed that financial terminology in the context of European Higher Education has to be used with caution. It is therefore necessary to work towards a more coherent terminology and be aware of possible (mis)understandings when debating this on a European level.

There are multiple reasons for this. The terminology of full costing in higher education in Europe has been influenced by various factors, such as the language and concepts for cost reimbursement used by European Commission Research Framework Programmes FP6 and FP7. Terms which, under FP6 and FP7, were specific to research projects are now being used to describe costs for overall activities, leading to confusion as to the precise definitions of these terms and what they really comprise in terms of costs.

Management costing and accounting theory, in particular Activity Based Costing (ABC) – a technique commonly used to establish full costing systems in Higher Education, has influenced the definitions but not yet achieved the common understanding and use in the higher education sector throughout Europe that they have in the business sector.

Advanced systems and their concepts and terms have had an impact as well. The Transparent Approach to Costing (TRAC) in the UK introduced a terminology with a very country-specific meaning

which can lead to misunderstandings when used in other countries. "Full economic costs", which is the term used in the UK, includes a special form of depreciation, the cost of capital employed and risk. The study found many examples of the "mis" use of the term "full economic cost".

The individual institutional ability to identify and allocate direct costs has influenced the understanding of what a direct cost is as well as the definition of cost objects.

National legislative differences across Europe affect costing and accounting practices and terminology. Different forms of depreciation, different terms in financial statements, different rules for property insurance in the public sector and the use of similar terms with different meanings make it extremely difficult to develop any standard terminology or comparability.

For the time being, EUA suggests adopting the term "full costing" to stand for the ability to identify and calculate all direct and indirect costs of a university's activities, including projects, in order to leave the necessary room for diversity in approaches.

Diversity

An analysis of costing and funding from an institutional perspective needs to take account of the great diversity among European universities and to cover their legal status, size, profile, ownership of property, governance, funding structure, costing structure and the level of autonomy. The findings of the study suggest that all these factors influence the development of full costing. It further allows universities that so desire to introduce full costing to identify others with similar structures for possible cooperation or for benchmarking purposes.

Status of development of full costing

The study shows that some countries or universities are well ahead of others in terms of the development of full costing systems. Development ranges from countries, such as the UK and the Netherlands, where a uniform but flexible system has been introduced in more or less all universities, to countries where none of the universities have developed full costing, such as Slovenia and Estonia.

Only certain universities have the necessary data available to introduce a full costing system – in fact

the amount of data available varied dramatically. The range encompassed everything from a lack of even basic information to very sophisticated databases covering students, courses, staff, staff time, estates and use of space. This is a very important factor because the quality of database and information systems influences the time, effort and investment needed for the implementation of full costing.

Another important factor for the development of full costing is the institutional context. National formal requirements, positive incentives or support for the development play a crucial role in progress towards full costing.

European Funding schemes that influence the design of costing systems need to be more aware of the range in the development of full costing in universities and should take this into account in the design of their rules of application and participation. Universities and countries which are not yet able to fully identify their costs need positive incentives to develop these models.

The role of external support

Support for the introduction of full costing was found to come at three different stages and was judged to be of the utmost significance for a successful outcome. It came as support for the development of the model, for the implementation of the model and in the form of post-implementation as funding on a full cost basis.

External support was found largely to come from national governments, national agencies responsible for the funding and/or organisation of universities, organisations representing all universities (e.g. Rectors' Conferences) and other external funding bodies.

Support can be found in the form of direct financial contributions but also through providing concrete consultancy for the development of full costing systems in the form of expertise. Advisory/consultancy support includes workshops, conferences, training, development of guidance materials, websites, exchange programmes, etc.

There is evidence that there is a positive relationship between the status of development and the level of support received. And countrywide coordinated development has many advantages in terms of increasing comparability and efficiency.

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Executive summary and recommendations

In many cases, however, there is no external governmental support at any of the three stages and although there are countries where considerable progress has already been made to develop and implement full costing in universities, there is also a large number of countries with no countrywide coordinated development and a significant number of universities unable to identify the full costs of their activities.

Drivers for implementing full costing

There are many different drivers for the implementation of full costing, which exist on an institutional, national or European level. Often two or three of these drivers are behind the design, development and implementation of full costing systems.

At the start of the project it was assumed that the main driver behind the move to identify full costs was external competitive research funding, in particular the European Framework programmes for Research and Technological Development (FPs). The project revealed significantly though that currently the most important driver is the use of full costing as an institutional strategic management tool.

Nevertheless, European competitive research funding schemes play an important role. With their model of cost recovery they motivate universities to implement full costing while increasing the pressure on national competitive funding schemes to follow their example. National funding schemes that do not fund indirect costs provide no incentive for universities to establish models to identify these costs.

Benefits of full costing

Full costing provides benefits for universities, national governments and on a European level. Among the benefits for universities are: a more systematic approach to activity analysis and costing; a more efficient internal resource allocation; improved strategic decision-making based on better understanding of investment decisions; benchmarking possibilities within the sector and an enhanced ability to negotiate and price activities, which lead to higher cost recovery of project costs and contribute thus to financial sustainability.

On the national and European level full costing is vital to ensure accountability. It also builds up trust between government, funding agencies and universities and smoothes out the transition towards autonomy. It facilitates national government budget allocation, as universities can prove what they need on a reliable and verifiable basis. Full costing enables universities to act more efficiently and base their decisions on sound data, which, in turn, reassures the government that the funding provided is used appropriately. Robust costing systems can also help governments to benchmark their own achievement of objectives more effectively. Full costing is a tool that can enhance financial sustainability and in the long run create stronger and more competitive universities which helps strengthen the European Higher Education Area. Enhanced accountability will also build the case for simpler and less costly procedures in contract and grant funding applications for research and innovation.

Obstacles to implementing full costing

The picture emerging from the project shows that there are both internal institutional and external obstacles. Some of these do not hinder the process of implementing full costing as such but they add to the length and weaken the quality of implementation.

Among the most common institutional obstacles are resistance to change and towards a managerial approach in universities, concerns over time accounting and a lack of management and leadership commitment. To overcome these internal barriers it is necessary to raise awareness of the benefits of full costing among the top leadership and key academic and administrative staff of the university and to communicate effectively and extensively throughout the institution during the implementation of full costing.

The most common external obstacles are a lack of autonomy, legal barriers and a lack of trust between stakeholders, in particular between funders and universities. Universities also face a lack of external financial support with the implementation of full costing which is a costly process and a strain on financial, technical and human resources.

Finding solutions to these problems resides in the call for greater autonomy for universities and financial and other support in its various forms as identified through this project. An increased importance assigned to the development of full costing should also help in transforming attitudes from a “low cost culture” towards correct pricing for projects undertaken by universities.

The role of funding schemes

European and national funding schemes are major drivers in the development of full costing in European universities but play a curiously double role. The project found that certain aspects of the rules, implementation and interpretation of important funding programmes such as the European Commission Seventh Research Framework Programme (FP7) have created a situation, where this positive driver for change risks becoming a barrier for the implementation of full costing systems. A careful analysis of the current rules and how they are applied across a range of universities might be advisable prior to the 2010 mid-term review of FP7.

The current three possible forms of recovering indirect costs from FP7 (1: analytical accounting system for the most advanced, 2: a simplified method for a less complex system and 3: a flat rate for those costing systems where indirect costs are not identified to a sufficient extent) aim to take account of the different status and profiles of universities throughout Europe. The project findings suggest however that the first 2 models (analytical accounting system and simplified method) need to allow a wider scope for different methods of identifying the direct and indirect costs of projects. Increased communication on possible full costing systems would help to reduce the insecurity on the subject identified through this project within the higher education community.

One issue of increasing significance is that external competitive project funding usually only partly covers full costs even if these are identified. The analysis of project data suggests that more and more universities are becoming aware that their financial sustainability is at risk if they carry out projects that are not fully funded. This, in turn, increases the danger that the objectives of funding programmes, such as enhanced research capacity, innovation and economic growth will not be fully met if an increasingly large group

of universities refrain from application because they fear they will not recover the full costs of activities and projects undertaken.

The project's findings suggest that the majority of European universities and, in particular, universities from the new EU Member States will not be able to identify the full costs of their projects or activities in the next few years in a way that would enable European funding schemes to cover a higher percentage of indirect costs, without strong incentive and support both on European and national levels. The risk that they will only recover indirect costs at a flat rate of 40% for projects from 2010 onwards as opposed to the 60% available now and the possible threat of an even lower rate subsequently, may harm Europe's position in terms of global competition in the field of research and innovation.

EUA emphasises, therefore, that there should be further analysis of the current experience of universities with FP7 contracts/grants particularly before taking any decisions on flat rates for indirect costs recovery in order to avoid any potential competitive disadvantage. (US funding schemes, such as NSF funding, provide a higher percentage of funding of both direct and indirect costs). Given the status of development as revealed by this project, EUA further suggests providing support to help universities implement full costing.

EUA also re-affirms its position already made in its response to the European Commission Green Paper on “The European Research Area: New Perspectives” (2007) that a move towards full cost funding of research supported by external funding agencies is an essential condition to underpin the sustainability of universities' research missions.

The role of autonomy and accountability

The project showed that autonomy is one of the conditions that underpin the implementation of full costing. Universities with a greater autonomy, especially in legal and financial matters, have more room for decision making and understand the need to have the appropriate instruments, such as full costing, for managing this freedom. A lack of autonomy can, on the other hand, be an obstacle for implementing costing systems. The inability to influence, for example, the costs of human resources and facilities at the institutional decision-making level, makes it less vital to have tools for the identification of costs at hand.

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Executive summary and recommendations

The project used the collected financial data from participating universities to see whether the degree of autonomy made a difference to a university's income and cost structure, and to explore some hypotheses put forward in the general policy debate on autonomy and funding.

To analyse further the relationship between autonomy and financial sustainability an aggregate legal and financial autonomy index was calculated which was constructed on the basis of 8 factors taking into account the different limitations imposed.

The total autonomy score and financial data indicate that more autonomous universities are better able to attract funds from different sources and that more autonomous universities are able to attract more international funding. The plan is to further explore this first step of the project's pilot sample with a larger sample of universities which could form the basis for identifying indicators of universities' autonomy and their benchmarking.

If autonomy is one side, then accountability is the other side of the coin. To be truly "accountable", universities have to fulfil targets, demonstrate quality and show what they have done with public and private funding. Full costing is one of the essential tools with which universities can prove to funders, students, taxpayers and society at large what their money is spent on. It is one of the key pillars of accountability.

The project revealed that there is a risk of accountability rules and procedures limiting autonomy or leading to complex bureaucratic reporting procedures. There need to be, of course, appropriate ways of showing expenditure of public and private funding. But the amount of data gathering and reporting for received funding, for example, needs to be proportional to the amounts received, and funding programmes should take more account of this in their rules of participation and requirements.

There are indications that, in general, requirements in funding schemes under the umbrella of accountability are too complex. The findings show that complex procedures do not necessarily provide a better proof of the correct use of received funding.

A university's flexibility can be restricted by an over-reliance on competitive funding sources. Competitive funding sources provide funding for particular projects or activities whereas a lump sum or block grant allows a university to shift resources internally according to its financial or strategic needs. Thus, too much reliance on competitive funding sources effectively limits financial autonomy. EUA calls for an open discussion on this issue of reaching the right balance between autonomy and accountability instead of simply introducing more and stricter rules.

Complexity

Full costing is a complex process that has to be implemented appropriately according to the specific needs and context of the university. It has to satisfy a number of different objectives and stakeholders, and it has to be flexible and robust enough to accommodate all these different needs through the provision of appropriate tools and administrative capacity. Therefore, it is important that universities themselves have long term goals and multiple purposes in mind when designing their system but it should not be made more difficult than necessary. Full costing is a means to achieve certain ends and not an end in itself.

One factor which significantly increases the complexity of full costing are the diverse requirements of external funding schemes, established to ensure accountability. Each funding scheme imposes different (sometimes conflicting) rules for institutions that make it difficult for them to establish well designed processes. This confusion calls for more coordination between national, European and international funding schemes and the need for the European Higher Education and Research community to share examples of best practice. EUA, for its part, is willing to act as a catalyst in this process.

Recommendations

Recommendations to universities

1. Start the process of full costing.
2. Understand the complexity and multiple purposes of costing systems and the requirements of stakeholders and then take account of these factors in the overall design.
3. Weigh up and then outline the multiple benefits of implementing costing systems and build awareness of these benefits within the university.
4. Use the costing system as an integrated strategic tool for planning and decision-making.

Recommendations to national governments

5. Recognise that universities need enhanced financial capacity to implement full costing.
6. Provide financial, technical, advisory and Human Resource support in implementing costing systems.
7. Grant universities the necessary autonomy to act independently.

Recommendations to European institutions

8. Work towards a coherent terminology and apply these terms in a consistent fashion.
9. Increase awareness on a European, national and institutional level of the multiple benefits of full costing (e.g. through follow-up activities of the Modernisation Agenda and European Research Area policy frameworks).
10. Recognise the variation in the status of development and ability to implement costing systems within European universities and provide further help and support to enhance this ability in managing European funding schemes.
11. Further simplify the rules for both FP7 and future European research funding programmes. Greater dialogue and analyses of existing rules and practices and how they are implemented should be fostered, involving representatives from universities and the relevant European institutions to allow for an optimum grasp of the situation, to achieve more efficiency in administrative procedures and to remove unclear or conflicting regulations at the 2010 review.

Recommendations to European institutions and national governments and other funders

12. Balance the need for accountability with less complexity of the information required in competitive funding schemes.
13. Work towards more coherent conditions for external funding requirements on European and national level.
14. Move towards funding on a full cost basis to contribute to financial sustainability and encourage other external funders to move in the same direction.

Recommendation to all parties

15. The term “full costing” should be adopted for the time being to stand for the ability to identify and calculate all direct and indirect costs for all of an institution's activities including projects.

2 Overview of the study/ Introduction

The need for this study

With this project, funded by the European Commission, Directorate-General for Education and Culture, EUA is seeking to contribute to the debate on the financial sustainability of universities through the analysis of a wide range of institutional data and funding patterns, with a specific focus on universities' progress towards identifying the full costs of all their activities and projects. EUA also aims to explore the relationship between this progress and individual universities' autonomy and accountability.

Only universities that know the full costs of all their activities can judge if they are operating on a financially sustainable basis. Financial sustainability is now essential in the light of

the increasing importance of universities' contribution to economic growth. A primary objective of this project was therefore to raise awareness of the issue of full costing on a broader scale within the higher education community.

EUA plans to address, on a broader scale, the topic of financial sustainability within the years to follow. The first step – encompassed by this project – is to identify the full cost of activities. The next step will be to analyse the ability of universities to diversify their income sources since financial sustainability will certainly be one of the main challenges for HEIs of the 21st century, when multiple aims and activities will necessarily increase financial pressure on universities.

Contextual pressures on Higher Education and Research

An ever more global market for education and research means universities must struggle to remain competitive. The costs of higher education and research have been growing rapidly. The reasons for this are well known; advances in the field of technology, particularly ICT and its wider usage in higher education and research, a growing participation rate, new societal demands on institutions, rising pension costs and tougher quality requirements are increasing costs and necessitate additional financing. Despite the fact that universities are at the centre of knowledge creation and development, which itself is seen as one of the main motors of economic growth, public funding of higher education in most countries is not increasing or at least not increasing enough in real terms. "Massification" has led to the budget per student being relatively low in most European countries compared to Europe's competitors. Despite political declarations of intent to increase spending on Higher Education and research, it is not very likely that public expenditure will grow significantly and therefore

keep up with rapidly rising costs in the years to come. One of the reasons for this is that higher education and research have to compete with other priorities in public budgets (security, health, etc.). Demographic trends and an aging population dictate that the health sector will take priority over higher education. This is a trend that not only affects European institutions but can be observed elsewhere as well. In the United States all 50 states face long-term structural budget deficits for higher education, amidst continuing budget cuts at the federal level.

These trends are forcing universities to respond by taking action. And action needs to be taken fast. Universities have strained their resources and assets in such a way that their future sustainability is under pressure. The first step in responding to these pressures is to identify the real costs of their activities for both internal and external purposes. While calling for vital additional financial support from the state, universities need to increase and diversify alternative sources of funding.

The view from the European Commission

The current European Higher Education and Research Policy Framework affecting universities has addressed the issue of funding in various communications and actions.

In its Communication from April 2005 “Mobilising the Brainpower of Europe: Enabling Universities to make their full contribution to the Lisbon Strategy”, the European Commission identified the need to act to gain greater attractiveness, better governance and better funding for Universities. As concerns the Modernisation Agenda, in the communication of May 2006, the European Commission identified the issues of autonomy, accountability and funding as crucial for the future of higher education. In November 2007, under the Portuguese presidency, the European Council reaffirmed the need for universities “to have sufficient autonomy, better governance and accountability

in their structures and to diversify their sources of public and private funding in order to reduce the funding gap”. Commissioner Figel’ again addressed the funding gap in his introductory speech at the EUA expert conference “Towards Financially Sustainable Higher Education Institutions” in February 2008 and said “that no modernisation is possible unless EU countries invest more and better in higher education. We believe EU countries should devote at least 2% of GDP public spending and private funds together. And to avoid any misunderstanding, this 2% should be added to the 3% of GDP we propose as a target for spending on Research and Development.”

Most European countries are a long way away from this goal. In 2004 public spending on higher education in the EU-27 was only 1.13% of GDP.

What EUA has done so far

Since the launching of its Glasgow Declaration (April 2005) – “Strong Universities for a Strong Europe”, EUA has addressed the issues of autonomy, accountability and funding through promoting conferences and workshops, and engaging its members (800 European universities in 46 countries and 35 national rectors’ conferences) in an evidence-based debate on improving university governance and leadership competencies and updating funding structures. An EUA conference in October 2005 in Uppsala assessed the status of system changes for research funding and collected insights into different practices applied by universities across Europe. EUA launched a broad debate on possible European funding and costing models and methods of assessing the full costs of research.

In 2006, in Hamburg, EUA addressed multiple aspects of innovating university funding, through the analysis of the impact of tuition fees on access, the diversification of funding sources and generation of sustainable revenue streams and the institutional requirements for accountability and good governance for managing increasingly diverse funding sources.

In the “EUA Lisbon Declaration” of May 2007, prepared as a result of the 4th EUA Convention in March 2007 and subsequently presented to the “Bologna Process” Inter-Ministerial meeting in London in May 2007, EUA re-affirmed its commitment to these issues through a new policy chapter addressing the challenges of “Autonomy and Funding”.

2 Overview of the study/ Introduction

Autonomy must accommodate diverse institutional missions and include academic, financial, organisational and staffing autonomy. This is essential, especially as experience demonstrates that, although change is underway, many European Higher Education systems still do not apply these principles.

Autonomy is crucial for most universities to achieve financial sustainability. Only

strong universities with a greater autonomy and accountability rather than universities over-regulated by national and European governmental agencies will be able to play their full part in responding to a changing society and its demands and in contributing to the revised Lisbon Agenda on Growth and Jobs.

What EUA wants to do now:

The objectives of the study - Providing practical information to back up theory-based claims

1. To provide information and empirical data for the debate on financial sustainability from an institutional perspective and raise awareness of the crucial importance of the issue.
2. To provide a critical study on the status quo of the development of full costing in universities.
3. To provide examples of good practice in full costing.
4. To analyse the relationship of autonomy and accountability with financial sustainability.
5. To formulate advice and concrete recommendations to universities which are in the process of developing their financial systems and give the participating universities the opportunity to benchmark their processes.
6. To provide recommendations to national governments, European institutions and other stakeholders.

3 Methodology

Starting Points

The project took as its starting point the results of relevant EUA conferences and its knowledge and experience of such projects as the UK's Transparent Approach to Costing (TRAC). External experts, JM Consulting, among others, were invited to give their input both on the status quo of costing in the UK and the Netherlands (both frontrunners in the field) and to share their knowledge of future developments with full costing. Other external sources, whose expertise lay in the fields of funding, autonomy, governance and costing in higher

education, were consulted throughout the project (Annex 1).

EUA's own studies ("The Funding of University-Based research and Innovation in Europe", 2004) and others in the field ("The Financing of Higher Education in Europe" by European Research Associates, 2004; "On the Edge: Securing a Sustainable Future for Higher Education" by IMHE/OECD and the Higher Education Funding Council for England (HEFCE)) acted as the basis for the project.

Selection of universities and experts for case studies

Vital to the project was the careful selection of universities and experts to work on institutional case studies. The selection criteria for the experts involved the willingness to share and analyse detailed information concerning income and expenditure flows, and costing and accounting practices and corresponded to an attempt to reflect the heterogeneity of the higher education system in Europe. In view of this, EUA took careful account of the varying legal status and regulatory frameworks affecting autonomy and governance across Europe.

The selection of volunteer universities was geared to offer a broad geographical coverage across

EU member states and beyond and included universities in both federal and unitary government systems. The project involved long-established major public universities, newer technical and technology-orientated universities and a small private university. Its composition reflected a range of mission orientations, from those whose focus is largely on research, to those that offer primarily education. The institutional experts in the group were heads of administration, finance directors and counsellors with significant experience in the field of funding, costing and financing of universities (Annex 1).

Collecting and analysing data for the development of an institutional template

The major task for the first phase of the project was to develop an institutional template in order to enable the comparison of funding structures and mechanisms within HEIs. All members' universities completed the template with a significant amount of institutional data designed to reflect the real status of funding in Europe's HEIs. The questionnaire was in English and contained explanatory notes to facilitate the understanding of terminology. The group analysed information concerning income and expenditure flows, costing and accounting

practices and took account of the different legal status and regulatory frameworks affecting autonomy and governance.

The group discovered through this exercise the challenge of comparing financial data on a European level (see also "The Funding of University-Based research and Innovation in Europe", 2004) and in particular the difficulties caused by applied terminology in costing and accounting (see chapter 4).

3 Methodology

The project's expert group evaluated the progress in implementing full costing in the participating universities and their national higher education systems. This identified systems where the process was more advanced and enabled the collection of information on specific institutional costing models.

The expert group further assessed the progress towards recovering the full costs of activities and projects in the universities and their countries.

Creating Indicators of financial and legal Autonomy

To further analyse the relationship of financial and legal autonomy with financial sustainability, the expert group developed a set of criteria for certain aspects of autonomy to be measured against institutional financial data, to identify the link between the degree of autonomy and the diversified funding structure of a university.

The HUMANE network (Heads of University Management and Administration Network in Europe) provided additional data from different universities to extend and complement the case studies of the expert group.

Confirming and developing the project's tools and preliminary results

Initial analysis on financial autonomy and advanced models of costing was fed into and developed at the EUA conference in Wroclaw in October 2007 on "The Governance of European Universities post 2010: Mission Diversity, Autonomy and Accountability". The conference included sessions on financial and legal autonomy, accountability and financial

management with a special focus on the move towards full costing of activities. Selected experts on the topic compared the first findings with cases from their universities. This confirmed the accuracy of the indicators of financial autonomy scrutiny in the national context of each individual university (see chapter 7).

Expert conference for validation and further development in the broader context of financial sustainability

A very important milestone in the second year of the project was the organisation of an expert conference allowing a large number of universities and experts to assess and validate the first project findings. 130 participants from over 30 countries were carefully selected, including policy makers, senior university leaders and managers, financial experts from universities and business, as well as researchers with significant expertise in funding and finance.

Further universities were selected prior to the conference to present their profiles as case studies to extend and complement the projects' existing cases and to allow for further comparison of initial findings. These case studies

were selected to provide contexts which were similar to those of universities already examined but also radically different, for contrast and further scope to the project.

A questionnaire, completed by participants and experts at the conference provided further vital input for the project. This questionnaire was so designed as to allow EUA to gather further data on the status and development of full costing. It aimed specifically at ascertaining the drivers for, benefits of, and obstacles involved in, full costing. After verification of the replies received and elimination of those where answers could not be clarified, 50 responses were used for further analysis.

Definitions

A major obstacle in comparing data was the absence of a commonly understood terminology throughout Europe. The institutional questionnaire contained explanations and took definitions from the OECD Glossary of Statistical Terms, OECD Glossary of Tax Terms, OECD Handbook of Internationally Comparative Education Statistics, 2004; Frascati Manual 2002 and definitions of building areas from TEFMA (Tertiary Education Facilities Management Association).

Despite these definitions, it became clear that a deeper analysis of all the data was necessary to make them comparable. The expert group spent a considerable amount of time discussing the understanding of data to adjust and adapt them in order to make them comparable.

The project language was English and many terms were interpreted differently by the experts.

The use of terms translated into English or the use of terms that are commonly employed in the UK risks misunderstandings when applied across Europe (see chapter 4).

From this exercise it became clear that collected financial data throughout Europe without detailed analysis of what it contains (different tax regimes, depreciation; insurance rules, etc.) will never be precise, but will only remain approximate.

In this respect we use the following terms in this lexicon of the report:

A university's "activities": Comprising a university's individual projects, products and day-to-day business.

Full costing: Ability to identify and calculate all the direct and indirect costs per activity and/or project that need to be considered to accomplish these activities.

Cost: The monetary value of resources used or liabilities incurred to perform an activity or service.

Direct cost: A cost directly attributable to an activity.

Indirect costs: Costs that have been incurred for activities, but which cannot be identified and charged directly to each individual activity. (Sometimes the term "overhead" is used to describe indirect costs. This report uses the term indirect cost.)

Cost driver: Any factor that causes a change in the cost of an activity resulting in the activity consuming fewer or greater amounts of resources.

Funders: Term used in the report for a diverse group of possible funding sources including national public funding either directly through government or funding agencies, national private funding from different sources and international public and private funding.

External competitive funding: Funding that is allocated to proposals submitted for programmes with identified priority areas. Usually only a small share of submitted proposals is funded. The process consumes many resources relative to the funding awarded, and there is no guarantee of success.

Analytical accounting system: This is a technical term in FP7 rules and denotes a system that can identify and group indirect costs (pool of costs) in accordance with the eligibility criteria (excluding non-eligible costs, e.g. VAT) and that has a fair and reliable cost driver to allocate indirect cost from the 'pool of cost' into different projects. The method of calculation must be in accordance with normal accounting practices and should be extracted from, or reconciled with, the official accounts.

Simplified method (FP7): The simplified method is a way of declaring indirect costs for institutions, which do not aggregate their indirect costs at a level of centre or department, but can aggregate their indirect costs at the level of the legal entity.

4 Terminology

One of the advantages of the institutional approach used for this study is the opportunity to gain an in-depth understanding of how various costing terms are interpreted across different countries. Case analysis and discussion in the expert group revealed that financial terminology in the context of European Higher Education has to be used very carefully. Using English as the international language means running the risk that terms are not translated correctly. They are also used in different ways, while different concepts are discussed using the same terms.

European research funding schemes, such as the Framework Programmes FP6 and FP7 have had a significant influence on the language used by universities for costing - the terminology and concepts used for cost reimbursement in FP6 and 7 in particular. The terms “full cost model” and “additional costs” in FP6 and the terms “direct costs”, “indirect costs”, “eligible costs” in FP7 are now widely used incorrectly, since they have entered the discussion about full costing of overall activities. In other words, terms which, under FP6 and FP7, were specific to research projects are now being used to describe costs for overall activities, leading to confusion as to the precise definitions of these terms and what they comprise in terms of costs.

The terminology of full costing has also been influenced by management costing and accounting theory. Although there are inherent differences in managing universities from managing profit oriented enterprises in the private sector, many problems faced are very similar. Many universities are confronted with financial pressures, rising operating costs and sharpening competition over students, combined with unfavourable demographic trends. These pressures are the reason why management tools successfully employed in the private sector under conditions of economic pressure and increasing competition have also been used in universities for the analysis of their cost structures.

One of the methodologies widely used, adapted and applied in Higher Education is Activity Based Costing (ABC). Terms such as “cost objects”, “cost centres” and “cost drivers” are associated

with the “true costs” or “full costs” of teaching, research and other university activities. Although research projects, courses or graduates may be seen as the “products” or “cost objects” of higher education institutions, the terminology and methods of management accounting have not as yet achieved the common understanding and use in the higher education sector throughout Europe that they have in the private sector.

One example, which is based on the methodology of ABC, and which also had an important effect on the development of the terminology of full costing throughout Europe, is the Transparent Approach to Costing (TRAC). TRAC introduced a terminology with a very country-specific meaning such as “charge-out rates”, “indirect cost rate” which can lead to misunderstandings when used in other countries. It becomes particularly confusing when the term “full economic costs” is used in the higher education sector in countries other than the UK or in a European debate, as full economic cost has one specific meaning. “Full economic costs” in the UK include depreciation (on an insurance replacement value basis), which takes into account the costs of maintaining and replacing capital infrastructure, and the cost of capital employed, which provides a margin for use in redevelopment, restructuring or investment. The study found many examples of the “mis”use of the term full economic cost, where the concept discussed did not include costs of capital employed (investment required for the university to function) and other elements originally encompassed by the term “full economic costs”. It is evident that there is no common understanding across Europe of the difference between “full costing” and “full economic costing”, because of different definitions of the terms and what they comprise. The expert group spent a considerable amount of time discussing the understanding of terms and “translating concepts” and meanings. It is therefore necessary to work towards a more coherent terminology and be aware of the different possible understandings when debating this on a European level.

Progress towards a common vocabulary for full costing faces a further challenge. Diverse national and institutional contexts, approaches and aims will always lead to differences in costing methods. Terminology should therefore allow enough scope for different concepts to be understood and also allow for the possibility to describe accurately further details of costing concepts.

The following issues, derived from the case and country studies and debates, influence the understanding of full costing:

1. The definition in funding schemes

The term “full cost model” in previous framework programmes has had a significant influence on what is understood under “direct costs” and “full costs” when using these terms for a cost recovery model. Although the terminology used in FP7 has made clear that eligible and direct costs are not the same, the distinction between the two terms is often not made in the debate on full costing.

2. Identifying the direct costs in universities

The ability to identify direct costs has influenced the understanding of the term. Wider or more sophisticated databases allow a larger set of costs to be identified as direct and this has influenced the understanding of what a direct cost is.

3. The definition of final cost objects

- Structural Units
- Programmes – by subject areas and/or cycles
- Study places
- Graduates
- Projects
- Others

The choice of cost objects differed according to the case and was, in most cases, also determined by the status of the database.

4. The ability to allocate indirect costs

The ability to allocate indirect costs to different cost objects has equally influenced what people understand by the term “indirect costs”.

5. National legislative differences:

Differing legal systems across Europe affect costing practices and terminology. Different forms of depreciation, different terms in financial statements, different rules for property insurance in the public sector and the use of similar terms with different meanings make it extremely difficult to develop any standard terminology or comparability. While international accounting standards in costing and accounting are applied in the private sector, this is not always the case in higher education. The increasing internationalisation of higher education is putting pressure on Europe to address this issue.

Key findings

- The lack of a common, European terminology in costing and accounting and of financial terms in the Higher education sector leads to confusion and makes comparisons difficult.
- Terminology has been influenced by various sources, such as the framework programmes, management accounting theory, and initiatives such as TRAC in the UK, which have led to diverging interpretations and adaptations.
- The diversity of national contexts and, in certain cases, the inability of universities to identify costs influences the understanding of what full costing is.

Recommendations

to the European Commission: Work towards a coherent terminology and apply these terms in a coherent fashion.

to all parties: The term “full costing” should be adopted for the time being to stand for the ability to identify and calculate all direct and indirect costs for all of an institution’s activities, including projects.

5

Diversity versus similarity

Recognising similarities between Higher Education Institutions

In order to analyse costing and funding from an institutional perspective it was necessary to consider a broad range of issues rather than confining the focus to financial data alone. The analysis covered legal status, size, profile, ownership of property, governance, funding and costing structure and level of autonomy and the influence of these factors on the development of full costing.

Such an analysis allowed, despite the great diversity among European universities, to recognise certain similarities in set-up, approach and structure. This, in turn, allows universities in the process of introducing full costing to identify others with similar structures for possible cooperation or for benchmarking purposes.

Legal status

In terms of legal status we divided universities into four broad categories: government agencies, public sector institutions operating autonomously, independent legal entities operating under public law and non-profit legal entities operating under private law. A fifth category “profitable entities operating under public law” was not represented among the participating universities.

This categorisation served to indicate the degree to which the government was directly involved in controlling the universities. Results showed, unsurprisingly, that those institutions operating under public law have a higher percentage of public funding than those operating under private law. They also revealed that some universities have a complex legal set-up, which, in turn, necessitates a complex full costing system. Friedrich Alexander University of Erlangen Nuremberg is a case in point. In terms of its legal structure, the hospital within the medical faculty operates more autonomously, whereas the rest of the university is effectively

a government agency – the effect of different legal acts. Further aspects of the legal status are analysed under legal and financial autonomy with the established index (see Chapter 7 on Autonomy and accountability).

Size of universities

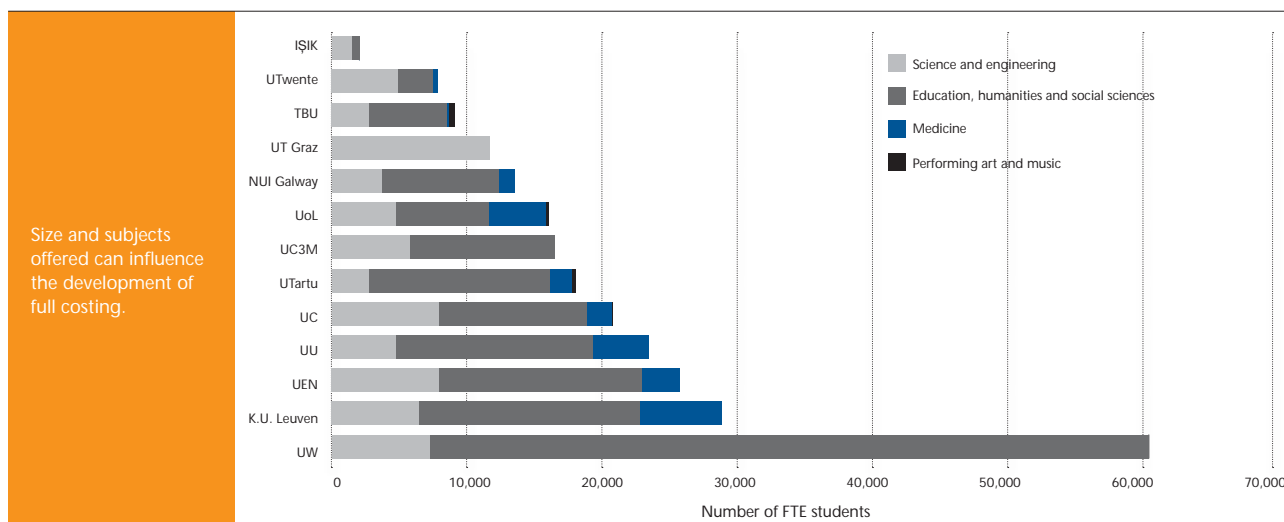
One way of establishing the size of a university is to look at the number of students enrolled. The expert group decided to use this indicator as it seemed to have an impact on the development of full costing. The study calculated student numbers as full-time equivalents (FTE). A full time student was counted as 1 FTE and any part time student was taken into account as 0.5 FTE.

The volunteer group of universities proved again to be very diverse, ranging from 2,047 FTE students in IŞIK University to 60,390 FTE students in the University of Warsaw. The University of Rome La Sapienza, a case-study in the expert conference, with 145,000 students, will of course have a different approach and a greater complexity to master in establishing full costing compared to a smaller institution. Universities of different size do not necessarily require a different full costing methodology, but it affects the process of planning and implementation and thus must be taken into account.

Profile

A university's profile obviously plays an important role in dictating the requirements of its costing system. The range of subjects offered, the student profile and the extent of its research activities are just some of the factors which impact full costing. Research intensive universities which gain a higher percentage of their income from research funding schemes will obviously implement a different full costing system from universities which primarily focus on teaching.

Figure 5.1: Size and subject offer of participating universities



Size and subjects offered can influence the development of full costing.

The project split students into four categories:

- Education, humanities and social sciences
- science and engineering
- arts and music
- medicine

The core group of universities involved in the project included universities operating in all of the above-mentioned fields as well as more specialised universities operating in one or two of these fields. It was found that the profile of the university is related to several specific challenges in full costing, which need to be addressed. For example, universities which run medical schools and hospitals need to decide how to differentiate between medical services for the public, teaching and research costs. Although a similar complexity exists within such university units as libraries where both of the main activities, teaching and research, are carried out at the same time by the same people, medical schools with hospitals add yet another layer of complexity to the design of a full costing system.

Ownership of property

Ownership and management of property also has an impact on the design of a full costing system and costs involved. For the participating universities there seem to be just two possibilities – the university either owns the vast majority of the buildings or the state does. In costing an institution's activities it is vital to understand who meets the costs of buildings and facilities and where they are reflected. If the state owns the buildings this does not exclude that all costs (maintenance etc.) are borne by the university. A university's ability to insure property is also of importance, with some countries such as Portugal not allowing universities to insure their property. This has an impact on the way property is costed in, in particular where historical buildings with high maintenance and high historical value are concerned.

A Swiss model to calculate costs of universities premises

Focus 1

“Most of the buildings used by the Swiss universities belong to the responsible public authority (canton or confederation) in charge of the university, which put them at the universities’ disposal, generally free of charge. As a result, the corresponding expenditures do not appear in the universities’ accounting. However, the universities also rent premises, in which case the expenditures will appear in the accounting. As the part of rented premises varies between universities, the straightforward use of financial accounting would lead to disparity in premises expenses. Moreover, some premises used by the universities are situated in buildings listed as historical monuments and under special protection. Costs are then much higher than for new buildings and it would not be correct to charge these expenses entirely to the university activities.

The model aims at levelling out these variations in using calculated costs with respect to premises. On the one hand, this allows for taking into account all costs in a uniform manner and, on the other hand, it guarantees comparability between universities.

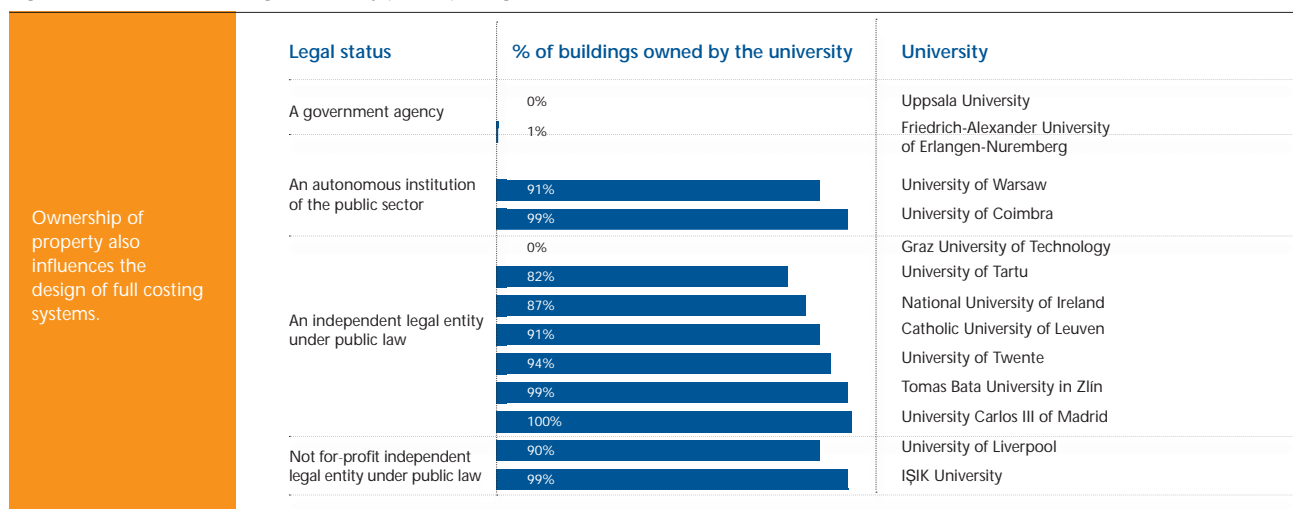
In fact, the model proposes to substitute the expenditures in relation to the premises by calculated costs. To do so, the floor space used by the cost centres is divided into 7 types: lecture halls, seminar rooms, laboratories, offices, libraries, stockrooms and archives, and premises for social usage. For each type, a price by square metre has been defined corresponding to annual costs of rented premises. The costs are then determined by multiplying floor space with the price by square metre.”

Raymond Werlen (the EUA Bologna Handbook)

The comparison shows that, as would be expected, universities run as government agencies do not own the buildings they use for their activities. There is, however, also an example of an independent legal entity under public law

which does not own its buildings (see Box I Graz University of Technology). In fact the majority of Austrian universities, independent legal entities under public law, do not own their buildings.

Figure 5.2 Share of buildings owned by participating universities



Funding sources

Funding sources differ to a large extent and have an impact as well on the costing structure. Universities receive funding from many different sources. These sources can be divided into broad categories (see Figure 5.3):

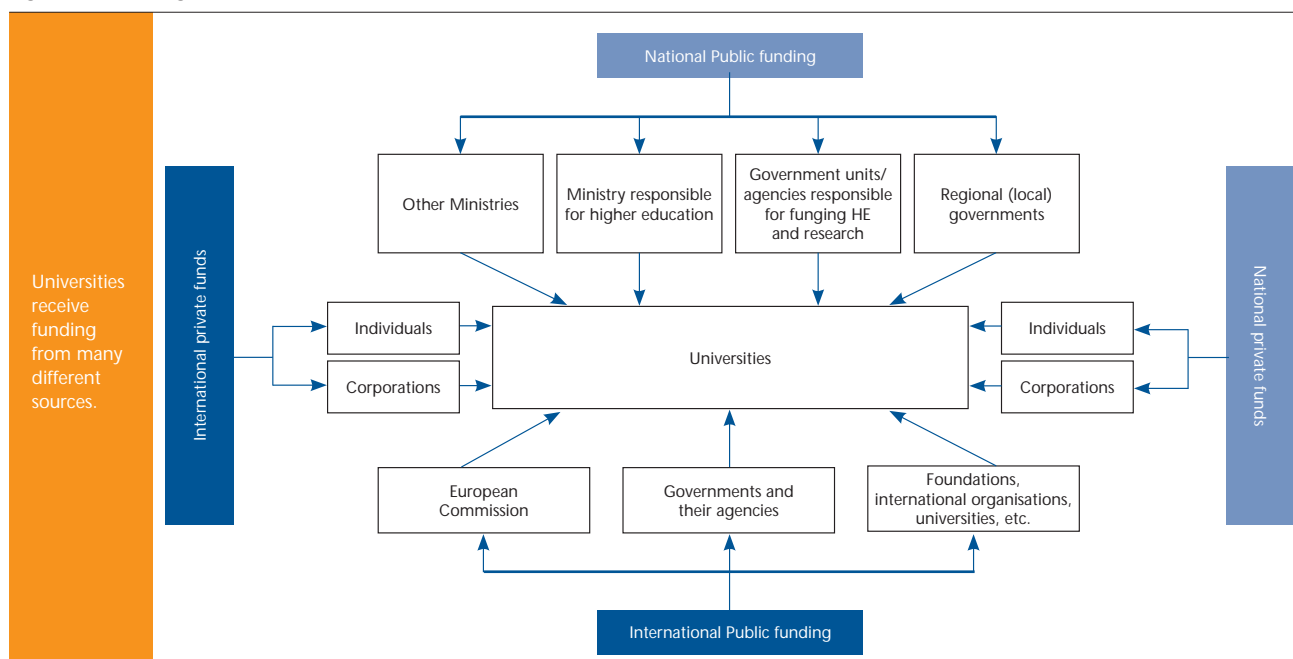
National public funding is the largest source of income for the majority of universities participating in the study (see Figure 5.4) – UU, UEN, UC, TBU, KULeuven, UTwente, and UTartu. In most cases national public funds are allocated to the universities by the ministries responsible for higher education and research. In some cases other ministries, national research councils and regional governments are also the source of public funds

National private funds are the second most important source of funds for participating universities. For IŞIK University, national private funds are actually the most important source and in the case of UoL almost as much financing comes from private funds as from public.

National private funds may reach the institution from students and their families or entities with different legal status operating in the private sector – referred to as corporations in Figure 5.3. Income from individuals usually comes in the form of tuition, academic or registration fees, but also as payment for student residence, meals or as a fee for services not only to students but to the general public – museums, souvenir shops etc. Income from companies is either in the form of fees charged for R&D contracts and other services or in the form of endowments.

International funds can either be public or private. Public funding means, in most cases, funds received through various projects and programmes of the European Commission. But there are examples of funds received from foreign national governments and its units, international organisations, foundations and state universities. International private funds consist mostly of fees paid by international students for tuition and contracts with foreign corporate entities.

Figure 5.3 Funding sources for universities



5

Diversity versus similarity

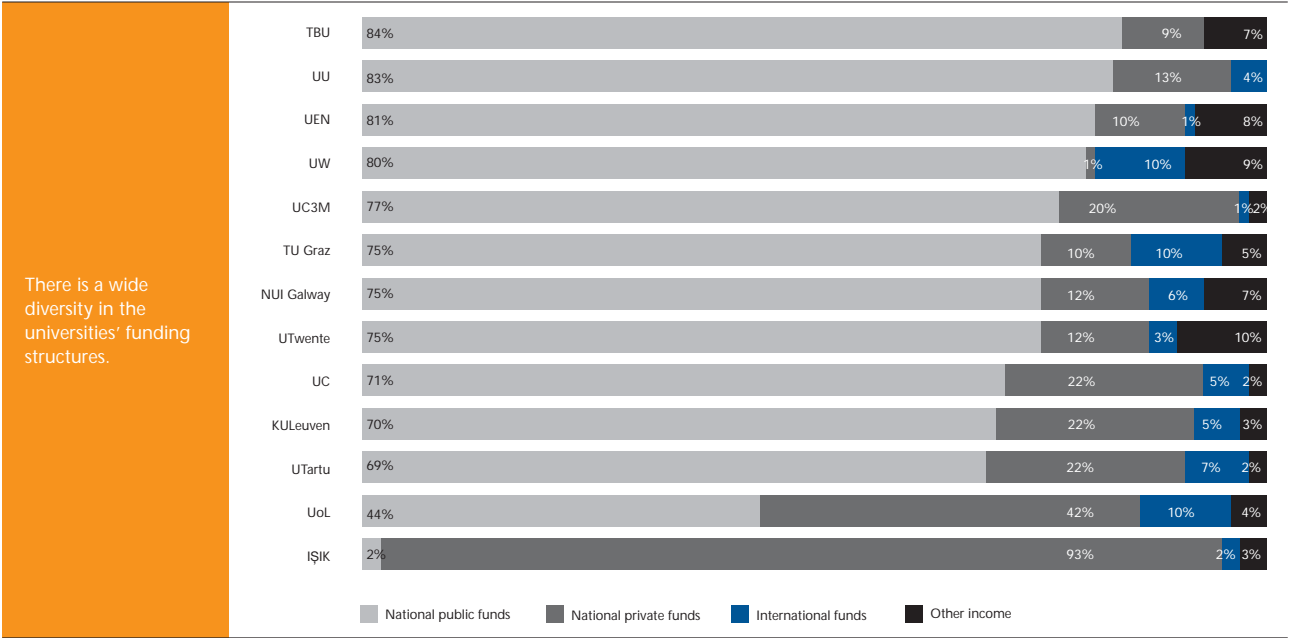
In addition to the above mentioned sources, HEIs may have other income, for example as a result of their own financial activities or from selling their assets.

Looking at the funding patterns for the participating universities below we can see that the part played by national public funds ranges from just 2% to 84% of total funding. Nevertheless the majority of universities receive more than 2/3 of their funding from national public funds. More than half of the participating universities receive less than 12% of their funding from national private sources. International funds do not exceed 10% of overall financing

and most of this comes from European funding schemes. Although comparatively small as a percentage of overall budget of a university, they still have a significant impact on the design and implementation of full costing (“Drivers”, p.34).

Funds originate from different sources in a variety of forms such as lump sum funding or line item funding. They may also be based on various formulae, performance indicators, volume indicators, etc. This also has a significant impact on the development of full costing (“Complexity”, p.58).

Figure 5.4 Origin of funds received by participating universities



Governing structure

A university's structure in terms of its different units, such as faculties, institutions, departments, centres, etc. can also play a role in the way full costing is implemented. Size usually has an impact on how a university is structured but not exclusively. The case of NUI Galway showed that the restructuring into different units can simplify the costing process.

The University of Ljubljana, one of the cases analysed during the expert conference, is in the process of unifying accounting systems between faculties. Establishing this unified information accounting system is a complex and demanding process which in turn also has an effect on the complexity and timeline of implementing full costing.

National University of Ireland Galway - Ireland

Box A

Key facts:

- Founded 1845
- Five colleges (medicine and health sciences, business, public policy and law, engineering and ICT, arts and social sciences, science). It is one of seven universities in the Republic of Ireland.
- 15 000 students from 40 different countries, has a vibrant post doctoral research community particularly in medicine, biomedical engineering, ICT and the humanities.
- Funding structure: 75% national public, 12% national private, 6% international and 7% other funding sources

In late 2004 NUI Galway adopted a Divisional Reporting Model whereby all costs (direct and indirect) are reported to individual faculties on a routine budget versus actual basis. In 2007 the academic structure of the University was simplified from 53 departments within 7 faculties to 15 schools within 5 colleges. This latter development has simplified the recording and reporting of costs to Academic Units. All income generated by an Academic Unit is also reported to that Unit and it is now possible to identify net surpluses or deficits for each Academic Unit.

The main driver for developing full costing at NUI is to achieve appropriate levels of funding particularly for research and indirect costs of research projects. In addition the university management wants to be able to be in a position to identify underfunded activities and/or inefficient activities (where costs are constantly higher than income generated) as this will better help them manage their activities.

Cost structures

One of the challenges involved in implementing full costing seems to be the fact that most systems in universities are still more income- than cost-oriented and the cost structures of most HEIs are based on cost items. This makes it difficult to measure costs

for a "product" such as a programme, a graduate or a research project. There is not always a clear connection between funds received for teaching and the actual costs of teaching which occur within the university.

Figure 5.5 Structures of expenditure of participating universities

		Costs of Personnel	Non pay operating costs	Depreciation
High percentage of personnel costs requires special attention in full costing.	University of Coimbra	73%	20%	7%
	Friedrich-Alexander University of Erlangen-Nuremberg	68%	32%	
	Graz University of Technology	67%	27%	6%
	University of Twente	65%	30%	5%
	National University of Ireland	65%	34%	1%
	University of Warsaw	65%	26%	9%
	İŞIK University	63%	31%	6%
	University of Liverpool	61%	35%	4%
	Catholic University of Leuven	60%	40%	
	Uppsala University	60%	34%	6%
	University of Tartu	53%	41%	6%
	University Carlos III of Madrid	51%	39%	10%
	Tomas Bata University in Zlin	44%	48%	8%

Key facts:

- 3 faculties and 3 campuses
- Founded 1989
- 18 000 students
- Funding structure: 77% national public, 20% national private, 1% international and 2% other funding sources

As with most Spanish universities, University Carlos III of Madrid has no global costing or accounting system for all its activities but financial and budgetary accounting with a strong emphasis in the budgetary processes. All expenses in budgetary accounting are allocated to a particular programme or centre. If the expense is directly linked to research activities, it is allocated to a research project.

The financial accounting is based on the budgetary accounting. Data concerning depreciation, contingencies, provisions, assignment of expenses or incomes to certain periods, etc are added to the data collected through the budgetary accounts.

In research activities UC3M has an accounting per project approach and charges to the project all the eligible direct costs defined by the specific rules of participation in the different calls for proposals for financing research activities (or in the contracts if the research project is linked to a private

contract with a company). Research accounting is integrated into the budgetary and financial accounting to ensure the integrity of the system.

In Spain, each university decides how to do research accounting according to their own accounting systems and there are no common calculation systems for direct or indirect costs in European projects. In some Spanish universities research is managed through special structures (foundations etc.).

The university is developing a data warehouse system to give the university leadership a complete overview of the university's activities and to meet the information requirements of the authorities. The university has recently started a project to explore the possibility of implementing a global costing system to cover all activities (teaching, etc.). This system might be linked to the accounting and human resources systems in place to access the information needed.

The participating universities also demonstrate a hugely diverse cost structure, which is influenced by a diverse range of factors. Looking solely at salary costs of staff in HEIs, which form most of current expenditure in universities, even institutions with similar profiles differ greatly. Personnel costs within the participating universities range between 44% and 73%.

There is, of course, a huge diversity in costs according to the programmes and subjects offered by a university (For example, funds needed per student in the field of medicine are obviously much higher than those for humanities and social sciences).

Listed personnel costs comprise annual wages and salaries and all associated costs or fringe benefits, such as bonus payments, holiday pay, contributions to pension funds and other social security payments, payroll taxes. As personnel costs are the largest cost item in expenditure it requires special attention in the development of full costing.

Status of autonomy

The impact of the status of autonomy on the development of full costing is twofold. A lack of autonomy may not only reduce the motivation to introduce full costing but also limit a university's ability to make changes in order to be able to implement full costing. The group of universities participating in the study have different degrees of autonomy and further analysis of findings from the expert conference suggests that there seems to be a positive correlation between autonomy and the development of full costing. The expert group also used financial data to test some assumptions on legal and financial autonomy ("Financial Autonomy", p.66).

Key findings

- In order to exchange best practice in full costing, clustering of European universities is needed, based on legal status, size, profile, ownership of property, governance, funding and costing structure and level of autonomy.
- The above mentioned aspects can have an impact on the design and implementation of full costing.

Mapping the status of full costing

In order to explore the status of full costing in universities it is also necessary to look at what their accounting systems have been used for in the past. Most of the projects' case studies showed that costing and accounting systems had been used to provide information for either internal decision and allocation processes or for external budget allocation and negotiation. This analysis is important because most universities base their full costing systems on existing databases and their institutional structure. Therefore the time, effort and investment needed for the implementation of full costing does not only depend on the size, profile and management structures of an institution as discussed in the previous section, but also on the level of the development and quality of different databases, information systems and the types of costing models already existing.

The project revealed that the amount of data available in European universities varied significantly. The range encompassed everything from a lack of even basic information to sophisticated databases about students, courses, staff, staff time, estates and use of space. According to the information available, each university then estimated or calculated different costs. The project's case and country analyses showed that costing models have so far been used to:

1. Identify the average cost per student. The models analysed ranged from simple forms to detailed categorisation of students and allocation of indirect costs taking account of how academic time had been spent.
Example: NUI Galway (Ireland)
2. Identify the costs, income and results per activity, including allocation of indirect costs based on relevant drivers and an estimation of the use of academic time for different activities (e.g. research, teaching and other activities).

Examples: University of Liverpool (UK), University of Coimbra (Portugal), Twente University (The Netherlands)

3. Forecast the full costs at project level – including a prognosis of the time needed for the project, attaching indirect costs to work of academic staff (different categories), taking into account costs of maintaining and replacing capital infrastructure and the cost of capital employed.

Example: Universities in the UK

4. Estimate the cost of a study place, taking into account the real objectives and criteria of study programmes, standard work loads of different staff categories, costs of different materials, equipment, literature and calculation of indirect costs based on real historic data.

Example: University of Tartu (Estonia)

5. Calculate the full costs for a number of projects financed by different funding agencies in order to raise awareness of the level of indirect costs and demonstrate the need for the financing of these costs.

Example: Uppsala University (Sweden)

All of these costing models involve tracing direct costs of objects and allocating indirect costs to the extent that the accounting and information systems of a university are able to do this. Despite some similarities on this general level, the use of the information is also very much dependent on the quality of the data and the choice of the appropriate allocation methodology.

Another important factor for the status of development of full costing is the institutional context. There are countries where full costing is an obligation for universities as well as countries with no formal requirement for such a method. Sometimes the obligation is combined with positive incentives or support for the development and implementation of the process but in a large number of cases there is neither a national requirement nor governmental support. (See also the section on different kinds of support p.54 as well as the drivers and obstacles in chapter 6).

5 Diversity versus similarity

The project looked at the status of full costing both at national as well as at institutional level and identified a great diversity. Universities seem to be either in the process of developing, implementing or running their full costing system (which excludes the universities which have not started a reflection on full costing). Development efforts range from very early stages of discussion to conceptualisation of the desired system. Implementation measures can include setting up a project management structure as well as a communication strategy, while systems in operation enable universities to effectively identify the direct and indirect costs of their activities. Even at that stage, there remains a great variety in the settings of the costing systems. (See Full costing: Common principles – different models p.60).

The project also identified support coming from different sources, under different forms and with varying intensity.

1. Countries, where the process of change to full costing was initiated and supported by national governments

United Kingdom

The UK has introduced a Full Economic Costing (FEC) methodology for its activities as defined by the Transparent Approach to Costing (TRAC) guidance. Universities are required to undertake an analysis of all activities in order to report annually on income and expenditure at a high level. In addition, institutions are required to use the analysis to determine institutional cost rates for research, which are then used to cost all research activity. That cost is used to help determine the price of a research project, depending on the funder type: for the UK Research Councils, the price is based on a proportion of the calculated FEC; for UK charities, the price is the directly incurred costs only; for industry, the price reflects market value. Overall, a university is required to ensure that it is sustainable, and hence should understand how it is funding its research portfolio from the range of sources of income, including both project-specific income from grants and contracts and the “block grant” for research

received on an annual basis from the relevant Funding Council (a UK Government agency). (See Box F University of Liverpool and Focus 5 Full economic cost in the UK and European projects)

2. Countries, where the progress of change to full costing was initiated by individual universities or a group of universities without the support of national government

The Netherlands

In 2006 Dutch Universities discussed how to deal with the new cost models of FP7. All 13 universities decided to build a costing system to comply with these rules and in particular adopt a system that would allow them to recover all their indirect costs (simplified method or analytical accounting system). In January 2007 the Dutch universities agreed upon a set of recommendations for the development of full cost calculation models in universities and all universities have had the new system up and running since January 2008. Whether this system will be accepted by the European Commission will become clear when more contract negotiations for FP7 calls have been finalised. (See Focus 6 The case of the University of Amsterdam).

Austria

In May 2005 the Graz University of Technology began the search for a method to calculate indirect costs which would both correspond to national and international financial rules and the universities’ own management and accounting principles. They were looking to develop a method similar to that used in the United States and in some international companies. A task force comprising finance and research staff from Austrian universities evaluated this method and all universities agreed to apply this model, also as a method to recover indirect costs of research projects under FP7. In December 2006 the Austrian Rectors’ Conference sent a description of this simplified method for the calculation of indirect eligible costs to the European Commission to see whether a certification

of this method was possible. Subsequently rules were published that made a certification difficult, as the designed model varied for example in the chosen cost drivers.

At present, there is no longer a fully unified development of Austrian universities and institutions will seek individually or in smaller groups for a certification (See Box I Graz University of Technology).

3. Countries, where the higher education sector either through a group of universities and/or the national rectors conference together with a national authority are developing a model for full costing

Ireland

In 2008 the Irish Universities Association, in cooperation with the Higher Education Authority, will begin to implement a full economic costing model similar to the TRAC model in the UK. The objective of this model is to identify clearly the costs of teaching and research within colleges and schools and to use such information to assess whether appropriate funding is being provided for these services.

Bavaria/Germany

A concept has been adopted by the Bavarian universities providing for the introduction of cost-type and cost-centre accounting on the basis of state-wide standards as well as asset-accounting which allows for depreciation of current assets. The plan is to implement this concept by 2010. (See Box L Friedrich-Alexander University of Erlangen-Nuremberg)

Spain

The 49 Spanish public universities are funded mainly by regional authorities and present, therefore, a diverse picture. In Andalusia (10 state universities) an agreement upon the indicators which would be used to evaluate universities results and allocate funds was concluded in 2007 and will come into force in 2009. In 2008 these universities

began to develop a common costing model with economic support of the regional government. Again in 2008 in Catalonia (7 public universities) regional authorities and universities started to develop a system of indicators which might be used in funding, and they plan to introduce a common costing model soon. Madrid (6 public universities) and Valencia (5 public universities) introduced a system of "indicators" for regional funding of universities but have not provided any financial support for a costing model project. Some universities in Catalonia, Madrid and Valencia are working on an individual costing tool.

4. Countries, where the higher education sector either through a group of universities and/or the national rectors conference without a national authority is currently developing a model for full costing

Sweden

For decades there has been a discussion between universities and funding agencies about indirect costs. Funding of indirect costs had been increasing slowly but, with external funding covering only about half the total research volume, universities argued that grants from funding agencies should also cover a fair share of costs of infrastructure such as premises, libraries and services. The Government supported that view, but it was difficult to gain acceptance from the funding agencies. When the principle of full cost coverage was introduced by the government in 2000, the Association of Swedish Higher Education (SUHF) reached an agreement with several funding bodies, including all government-funded research councils and foundations to accept unspecified indirect costs of 35% of the direct costs. About half of this was meant to cover costs for premises.

5 Diversity versus similarity

Many private funding bodies, however, do not accept this agreement. They either maintain that they are unable to cover indirect costs or that the university should agree to cover the indirect costs when they receive a contribution from external sources.

Universities considered 35% insufficient and several studies undertaken show that indirect costs (including premises) tend to be above 50% of the direct costs. In 2006 SUHF therefore invited funding agencies to appoint auditors and other specialists to join a group of university experts to develop a new common costing model for indirect costs. The model should facilitate sound internal management and provide accurate accounts and a better monitoring of the full costs of various activities. In November 2007 the new model and a manual for its use was presented to the General Assembly of SUHF, which recommended that its members – all Swedish universities – should implement it as soon as possible.

The model is based on the division of all activities within a university into core activities and support activities. The core activities are made up of cost centres, which for instance can be research projects with external funding. Support activities, giving rise to indirect costs, are attributed to three “levels” within a university (central level, faculty level, department level). In the model, indirect costs are divided into a number of defined functions (management, administration of education and research, finance and personnel

administration, infrastructure and services, libraries). Through standardised procedures, all these indirect costs are allocated to the cost centres. The model is applicable both in calculating the total cost for a planned research project and in presenting the accounts after completion of the project.

All Swedish universities will implement the model in a coordinated way. There are still open questions such as time accounting, for which a special working group has been established. (See Box G Uppsala University).

Flanders/Belgium

Over the past 2 years priority has been given to the implementation of a new general accounting regulation for the university sector, whereby a switch was made from “cash based” to “accrual based” accounting. The 7th Framework Programme has put considerable pressure on the Flemish Universities to introduce a full cost system. On a regional level, the Institute for Science & Technology (IWT) has announced the introduction of similar requirements. In 2007 financial management agreed to implement a system of time recording for permanent staff. They discussed a system for calculating the average hour rate with officials from the European Commission assigned to ascertain if the method conformed to FP7 rules. From 2008 onwards, Flemish Universities will jointly start to develop standards for a full cost system applicable to all university processes. (See Box E Catholic University of Leuven).

Status of full costing in Slovenia

Focus 2

- No public university in Slovenia has implemented full costing.
- There is no cooperation of Slovenian universities regarding the introduction of full costing and the Rectors' Conference has not yet discussed this matter.
- There is no government support or initiative for public universities regarding the introduction of full costing.
- Awareness is higher among the researchers and FP7 administrators.
- The implementation of a full cost system by 2010 is not expected.

Although there are countries, where considerable progress has already been made to develop and implement full costing in universities, there is a large group of countries with no countrywide coordinated development and a very large group of universities is still not able to identify the full costs of their activities and without increased European and national support, it is unlikely that this percentage will change within the next few years.

Looking at individual cases, the project tried to analyse the institutional status in relation to internal and external factors. The following clusters were established to ascertain if there is a relationship between the status of development and the level of support (see also "External support for implementation of full costing", p.54).

Group A: Full costing is developed and applied to all or the majority of structural units of the university in order to identify the full costs of the core activities (teaching, research, other) both at the university level as well as at the level of its main structural units.

- University of Liverpool (UK)
- University of Twente (Netherlands)
- University of Coimbra (Portugal)

Group B: Full costing is at the stage of development (in most cases with already specific time-lines attached)

- **Uppsala University (Sweden):** See Box G
- **NUI Galway (Ireland):** In late 2004, NUI Galway adopted a "Divisional Reporting Model" whereby all costs (direct and indirect costs) are reported to individual faculties on a routine budget versus actual basis. In 2007 the academic structure of the university was simplified from 53 departments within 7 faculties to 15 schools within 5 colleges. This latter development has simplified the recording and reporting of costs to academic units. All income generated by an academic unit is also reported to that unit and it is now possible to identify net surpluses or deficits for each academic unit.

- **Friedrich-Alexander University Erlangen-Nuremberg (Germany), UEN:** The University of Erlangen-Nuremberg plans to further develop the cost-type and cost-centre accounting into a cost-unit accounting in the future in order to better evaluate specific subjects and research projects.
- **Graz University of Technology (Austria):** See Box I
- **University Carlos III of Madrid (Spain):** The University is developing a data warehouse system to give a full picture of the university's activities to the university leadership and to meet authorities' information requirements. The university has recently started a project to study whether it should start a global costing system to cover all activities (teaching, etc.). This system might be linked to the accounting and HR systems in place to get most of the information needed.
- **Catholic University of Leuven:** See Box E

Group C: Methodology and databases for allocating indirect costs to activities are at the stage of development but no decision or time schedule is in place for implementing full costing

- University of Tartu (Estonia)
- Tomas Bata University in Zlín (Czech Republic),
- İŞIK University (Turkey)
- University of Warsaw (Poland)

IŞIK University - Turkey

Box C

Key facts:

- Three faculties
- Founded 1996
- 2200 students
- Funding structure: 2% national public, 93% national private, 2% international and 3% other funding sources

- This project was an opportunity for IŞIK University to get acquainted with the concept of full costing. The pressure to provide a sound and student-centred education and meeting financial needs forces the university to identify the full costs of activities to improve the decision-making processes and to develop meaningful strategies. The leadership is trying to boost efficiency. The idea is to weigh alternatives once the full costs are evaluated and to act, without losing sight of academic ambitions, to optimise the allocation of resources.
- Since IŞIK University is a young and expanding institution, an early adoption of a full costing system is expected to lead to a dynamic and innovative institution.
- The fact that it has full financial autonomy makes it worthwhile for IŞIK University to implement full costing.

Constraints:

- Full costing is not on the national agenda.
- Narrow interpretation of academic freedom renders it difficult to assess actual costs, especially in teaching, since efforts to create cost centres are perceived as a new way of exerting control upon academics.
- Unstable national higher education market, normally expected to encourage new costing methodologies, unfortunately pushes players towards quick solutions, away from orchestrated systematic changes.
- Little demand for accountability.

Leadership's commitment is the primary driver at IŞIK University.

The above grouping of cases indicated that coordinated national initiatives and/or financial support from the government lead to a more advanced system of full costing. Where there is no national initiative or coordination combined with no support, full costing is less developed or not developed at all. The exceptions to this

pattern were universities where the internal drivers, such as using full costing as a strategic tool, were combined with a greater financial capacity and flexibility (University of Coimbra).

The results of the questionnaire developed for the expert conference showed a broader picture of the status of full costing. 21% of the institutions have implemented full costing, 50% have started the process and for 29% there is no concrete development. However, considering the specific theme of the conference, which makes it only fair to assume that the sample of participants was biased towards institutions that were more aware and interested on the topic, the fact that 29% of the institutions reported no concrete development in this field is significant and shows clearly the need for further discussions and actions at national as well as European level.

Figure 5.6 Relation between status of full costing and support received by universities (Expert Conference survey)

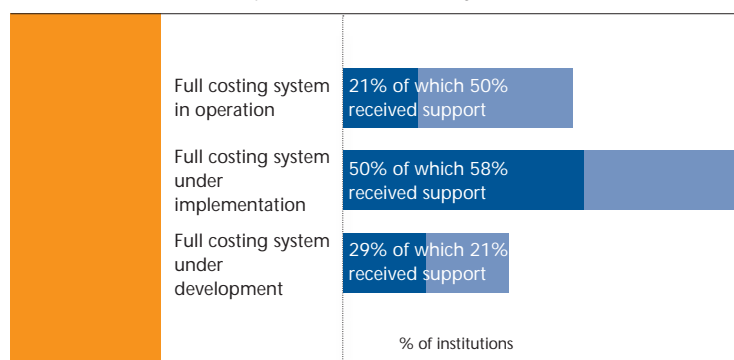
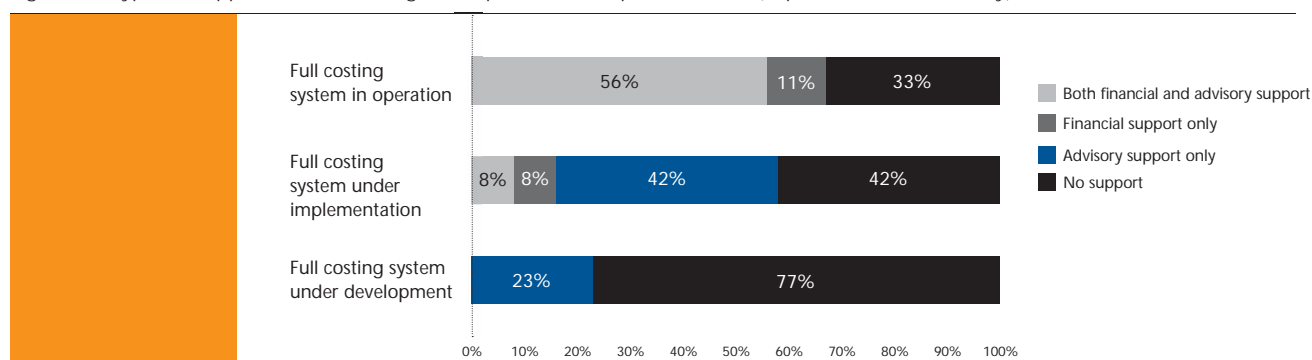


Figure 5.7 Types of support for full costing development and implementation (Expert Conference survey)



The results confirmed the findings from the case studies that coordinated national initiatives and/or financial support from the government lead to a more advanced system of full costing. Expert conference results showed that half of the universities which have implemented full costing and 58% of universities where the process of implementation has started, have received some kind of support. This came mostly in the form of a joint university project and from national governments or funding agencies. Universities, which are in the process of implementation, have received additional support from rectors' conferences. Conference findings also confirm that most of the universities with full costing systems already in place have received at least some financial as well as advisory support for that (see Figure 5.7).

Key findings

- The status of full costing widely differs between countries and among universities.
- Each of the three identified stages (full costing under development, implementation or in operation) covers a broad range of situations.
- The time, effort and investment needed for the implementation of full costing also depends on the level of the development and quality of different databases, information systems and the types of costing systems already existing.
- National coordinated initiatives lead towards an advanced development as does financial and advisory support from government.
- External funders need to be aware of the different levels of development of costing systems and should take this into account in the design of their rules of application/participation.



Recommendation

to European institutions: Recognise the variation in the status of development and ability to implement costing systems within European universities and provide further help and support to enhance this ability in managing European funding schemes.

6

Full costing - why and for whom

Introduction

A crucial element of the project was to analyse why universities should implement full costing. A second step was to identify the drivers, benefits and obstacles in this process. This chapter will investigate these questions.

The starting point was to take stock of the development in countries and universities that have already implemented and used full costing and to analyse, on the one hand, the drivers of this process and, on the other, its benefits for the stakeholders.

The growing variety of a university's activities and its increasing autonomy mean that the university in turn needs new tools to cope with its changing status. The question for EUA was whether full costing was a necessary tool. Is it just another management trend, driven by

consultants, management theory and software companies? Is it a useful tool for European universities in all their diversity?

Experience in other countries, in particular in the UK, with the Transparent Approach to Costing (TRAC), showed that research funding in the UK was not covering the real full costs of the research undertaken and that, without change, it would endanger the future financial sustainability of British universities. It has become increasingly an issue throughout Europe to identify the real full costs of universities' activities. The following chapter also analyses what were and are the driving forces behind the implementation of full costing in European Higher Education institutions.

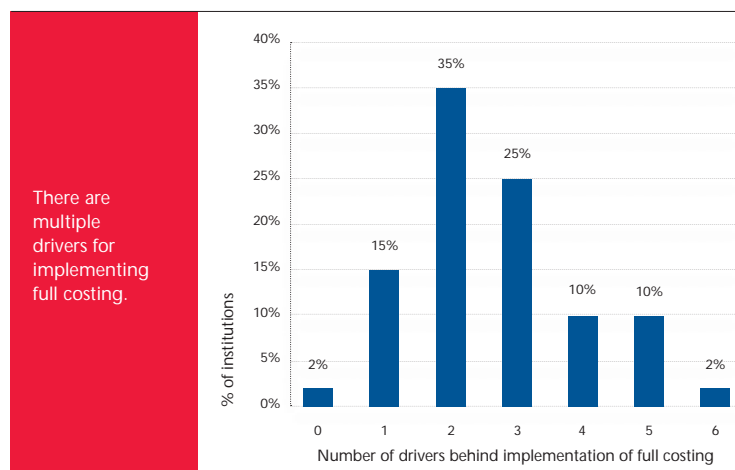
Drivers

At the start of the project it was assumed that the main driver behind the move to identify full costs was external competitive research funding, in particular the European Framework Programmes for Research and Technological Development (FPs). The project revealed significantly that this is not the only motivation for universities

discussing and implementing full costing, but that there are a wide range of drivers for the implementation of full costing systems.

It was found that motivations such as using full costing for strategic decision making rank highest (see Figure 6.2). The expert conference confirmed this and more detailed analysis suggests that there are differing multiple drivers for each individual university (see Figure 6.1). The percentages given on the figure show the results of a questionnaire from the expert conference. While it is clear that the answers might vary depending on who is asked within the university, it confirms the picture emerging throughout the lifetime of the project.

Figure 6.1 Number of drivers behind implementing full costing



The different drivers can be clustered into Institutional, National and European categories.

Institutional Drivers:

On an institutional level, an increase in autonomy is a key driver for full costing. Universities which are more autonomous, especially in legal and financial matters, have more room for decision making on the one hand, but see, on the other hand, the need to have the appropriate instruments for managing this freedom. Universities that are dependent on the state, or have less freedom, have either little motivation or possibility to change the system.

In general, universities are developing more managerial behaviour and are more open to using modern management tools to support them in their decision-making processes. Significantly this was one of the most important drivers for implementing full costing. The project identified cases where full costing was implemented as a strategic and management tool despite the fact that there was no external support from national governments (See Box D University of Coimbra).

The growing complexity and multiple functions of the university of the 21st century, as outlined by Professor Sir Howard Newby, Vice Chancellor of the University of Liverpool at the project's expert conference, creates the need for appropriate tools for strategic decision-making. The activities do not only cover teaching and research, but include new and diverse forms of teaching of a changing customer base (from teaching to lifelong learning). Research is becoming more global and competitive and universities are key drivers in global, national and regional economic development. Societal and civic responsibilities are growing and have led to a greater diversity. Universities understand that they cannot do everything but must make their choices. Sound costing systems are an essential tool in providing a basis for this decision-making process in shaping the institution's profile.

A change in the funding structure with a general trend towards an increase in external competitive funding, which usually does not cover the full costs of activities and projects, forces universities to try to identify the full costs of these activities and projects. Being able to track full costs is vital to the process whereby the university must identify and prioritise amongst its many functions, allocating funding to those activities which are key to its profile on a competitive market.

On the one hand, universities have the possibility of recovering more indirect costs if they are able to identify them in a reliable way and, on the other hand, they need to have this information in order to be able to identify the amount of additional funding they have to find or shift from other sources to finance projects which define their role in the market but which receive only partial funding. The ability to identify which of those projects and activities should be funded is essential to ensure financial sustainability.



Full costing - why and for whom

University of Coimbra - Portugal

Box D

Key facts:

- Eight faculties including a medical school
- Founded 1290, comprehensive mission
- 25.000 students
- Funding structure: 70% national public, 20% national private, 5% international and 5% other funding sources

Drivers:

- In 2000 there was a set of factors which drove the institution to begin the implementation of a costing system that would identify the full costs of activities and projects.
- The leadership felt the need to have a tool for **strategic management** to support efficient resource allocation, to understand the institutional cost drivers and to have a coherent approach to planning, monitoring and evaluating institutional performance.
- To handle the increasing complexity of its activities, the university wanted to develop a new management model. The **managerial** approach was to have a clear grasp of all institutional costs and incomes and make the appropriate decisions, to establish indicators to monitor activities and to ascertain the deviation between real costs and estimates.

Barriers:

- There was **no external financial or other support** for the implementation of the system. This could only be overcome through the financial capacity of the university, and the strong commitment of the university leadership to the full costing system.
- The calculation of real costs for historic buildings, the lack of ownership, fixed depreciation rate and the rule of no insurance for state owned buildings were **technical and legal barriers** that the university had to overcome.
- Cultural barriers that had to be addressed were time measuring, time recording of academic staff and a general resistance towards change.

National Drivers:

On a national level, pressures on public expenditure in higher education and research have led to the implementation of full costing systems in universities.

Such pressures require universities not only to increase their efficiency but to introduce tools to demonstrate increased efficiency and to prove to governments and funding agencies the extent to which their funding schemes fall short of real costs. Full costing provides the university with a tool to make their cost structure transparent and eases budget allocation and negotiation with the government and agencies.

Obligations to change the accounting systems play an important role. 39% of the respondents of the questionnaire from the expert conference see this as a driver.

National competitive funding schemes (in particular for research funding), with their conditions of cost recovery, have also positively influenced this process. They, in return, have themselves been influenced by the conditions of European funding schemes with their models of cost recovery of indirect costs.

Pressure from stakeholders for accountability plays a role, although, looking at the results from the survey from the expert conference, at first sight, not the greatest.

Key facts:

- Fourteen faculties including a medical school
- Founded 1425, comprehensive mission
- 33 810 students
- Funding structure: 70% national public, 22% national private, 5% international and 4% other funding sources

Over the last few years, the university has given priority to the implementation of the new general accounting legislation for the university sector, whereby a switch was made from “cash based” to “accrual based” accounting. The fact that the EC’s 7th Framework Programme will disadvantage the organisations that cannot demonstrate their full costs has put considerable pressure on the Flemish universities. On a regional level, the Institute for Science & Technology has announced the introduction of similar requirements. This was the first driver in the move towards the set-up of a full costing model.

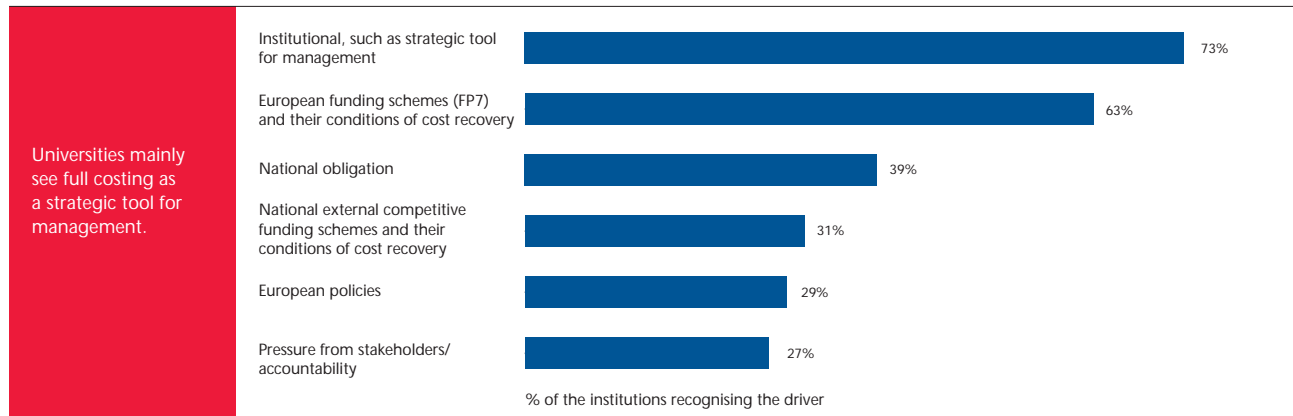
The funding pattern of the Flemish universities has been changing over the last decades: the share of state funding is decreasing while private funding is becoming more and more important. Meanwhile, in public funding, a shift is noted towards more direct, project related funding with little allowance for indirect costs. As a

result, funding for structural costs and investments is increasingly scarce. A full costing system should lead to a better knowledge of costs, providing the means to discuss state funding with the government and adjusting price setting policy and practice for privately funded projects.

Motivated by other European examples, the Flemish universities have started a joint effort to develop the framework of a full costing model, applicable to all universities. So far, a preliminary study has been carried out. The main objectives were to build up a good motivation for the introduction of full costing in the universities given the specific Flemish context and to benchmark foreign systems.

Meanwhile, and anticipating the introduction of a full costing system, the Catholic University of Leuven started in 2007 with the implementation of a system of time recording for permanent staff.

Figure 6.2 Relevance of different drivers behind implementing full costing



European Drivers:

On a European level, competitive funding programmes such as the Framework Programmes for Research and Technological Development, with their conditions of cost recovery, play an important role in the move towards full costing. Universities that can identify their indirect costs on a project level for research projects funded under the 7th Framework Programme can recover a higher rate of their indirect costs than those that are not able to do so. They can recover all their indirect costs compared to a flat rate of 60% of the direct costs. The overall reimbursement rate of both direct and indirect costs depends on the specific action and can vary from 50% to 100%. This is an important driver for 63% of the respondents of the questionnaire. For those who have already implemented a full costing system, European research funding is one of the key drivers (see Figure 6.3).

The European funding schemes have also influenced national funding agencies (for example in Austria and Germany) and private funding (through trusts) in their decision to re-evaluate their funding policies and increase the amount of funding of indirect costs. (Some have previously not funded indirect costs).

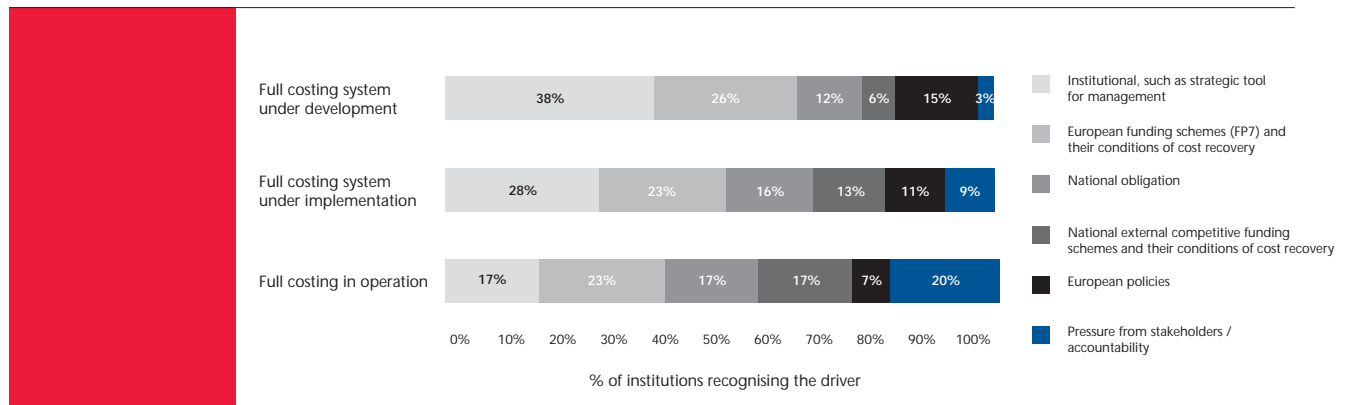
There is further evidence that European policies such as “Modernising Universities” have an important effect and bring the issue to the attention of the leadership of universities and political decision-makers in national

governments and thus play a role in further development of the process.

It is interesting to note that universities that have begun with the implementation of a full costing system, as well as those that have not as yet taken any action, regard its use as a strategic management tool as the most important driver (See Box D: University of Coimbra). Universities that have already implemented a full costing system give equal weight to all three major possible drivers i.e. full costing as management tool, accountability pressures and influence of funding schemes. This leads us to draw the conclusion that universities that have already implemented a system have done so due to multiple pressures.

The fact that 73% of all respondents now see the use of full costing as a strategic management tool as the most important driver as opposed to the former assumption that it was primarily useful in fulfilling requirements for funding schemes suggests that universities are in the process of positioning themselves to take on a more autonomous role vis-à-vis their national governments. They have taken up the challenge of modernising their universities. It is now up to the national governments to provide them with the autonomy they need.

Figure 6.3 Relation between drivers and status of full costing



82% of respondents from the survey view several drivers as responsible for pushing the process forward. 60% see 2 or 3 reasons for the move towards implementation of full costing.

We can conclude from this that universities are aware of the complexity of the process.

It would also seem reasonable to suggest that the awareness of this complexity is, amongst other reasons, responsible for the fact that the design of a system takes time.

Key findings

- There are many different drivers but often two or three of those drivers are behind the design, development and implementation of full costing systems.
- The expert conference revealed that the most important driver is the use of full costing as an institutional strategic management tool.
- European competitive research funding schemes with their model of cost recovery push universities into implementing full costing, and increase the pressure on national competitive funding schemes.
- European policies play a more important role and pressure from stakeholders is less of a driver for those who are starting the development or implementation of full costing; whereas it is the other way around for those who have fully implemented full costing.

► Recommendation

to universities: Use the costing system as an integrated strategic tool for planning and decision-making.

6

Full costing - why and for whom

Benefits

The project identified various benefits which can be clustered in different ways. As this report addresses universities as well as national and European stakeholders in higher education, the description will follow this division. Some of the benefits explored will also apply for global actors, such as internationally operating trusts and businesses. Collaborative research and competitive research undertaken by universities remains, in most cases, underpriced and those who contract universities for research have benefited from this. A change in the costing and pricing of institutions' activities will result in more market based prices for research and teaching.

A different clustering of benefits will be shown in Focus 3.

Benefits for universities:

Throughout the course of the project it became clear that the majority of the benefits of implementing full costing systems lies within the institution. Those who already have full costing in place stated that the process has been beneficial in many ways. Due to the huge diversity amongst universities the following benefits do not necessarily apply to all in the same way.

The benefits for universities can further be divided into internal institutional benefits and external institutional benefits.

Data analysis reveals among internal benefits, a systematic approach to activity analysis and costing, a greater understanding of the financial implications of investment decisions and up-to-date and consistent information for management decisions. A better and more efficient internal resource allocation system that is based on sound data rather than estimates helps the institution to divide resources in line with strategic objectives.

Financial data gained through a full cost analysis can, in general, be used to improve strategic decision-making and universities will be able to distribute resources on a more informed basis. It is important to stress that the cost information should not dictate decisions and be driven by cost factors alone. Academic and strategic considerations should set the context and guide decisions, and cost information will inform this process.

Full costing will assist universities in their effort to become more efficient and spend their money on primary processes such as teaching and research. Money gained through a more efficient management of the institution and a better delivery of projects will also allow the setting up of incentive processes and reward those who work efficiently. For example, researchers will gain a better understanding of the costs associated with research and thus help the university to maintain the focus on the needs of the institution to achieve financial sustainability.

In environments that had a countrywide coordinated approach (UK) or where a group of universities developed a joint methodology framework (The Netherlands), it was found that these universities benefit also from the possibility to benchmark themselves with the rest of the sector on a consistent basis and identify, through this analysis, if they work efficiently and effectively. This, in return, enhances internal decision-making processes and actions for improvement and change.

Other benefits, reported by institutions which are able to identify their full costs include financial benefits through a credible basis for pricing to negotiate with both public and private partners and higher cost recovery.

Key facts:

- Six faculties including a medical school
- Founded 1881
- 16 405 students
- Funding structure: 44% national public, 42% national private, 10% international and 4% other funding sources

In April 2004 the University began the process of implementing the UK approved costing methodology known as Full Economic Costing or FEC. A timetable had been agreed between the UK Universities and the national funding bodies which meant that Liverpool had to complete the first phase of implementation by March 2005. The process included establishing a framework for collecting data on staff time, agreeing cost drivers and developing software applications to use from 2005 onwards.

The University established a project board and followed a project management methodology throughout the life of the project. The project board was chaired by a senior academic and included representatives from Finance, Human resources, Estates and Academic Departments together with staff from Computing Services. The project manager was supported by a team drawn from the departments mentioned above.

A team was established in the Finance Department to develop the data

requirements, collect and record the time allocation information and development of the software model that attributed costs using the agreed cost drivers. Initially a team of three, there are now four full time staff working full time on costing.

The deadline of March 2005 was met, and subsequently development of the methodology has continued. This success was not just the result of good project management and teamwork, but also, and significantly, due to the leadership from the senior academic champion. The involvement of academic colleagues, and committed support from senior management demonstrated the importance to the University of this major change in financial administration.

As a result there is now widespread recognition of the full costs of activities across the University, better processes are being achieved for externally funded activities and the return on investment is substantial, both financially and in managerial terms.

National benefits:

National benefits can be grouped into benefits for governments, funding agencies and private parties (the latter as mentioned in the introduction to this chapter will also apply to European and internationally operating players).

Accountability, although not seen by universities as the major driver for implementation, is one of the main benefits for all involved on the national level. National governments and funding agencies will have a much more objective decision-making basis for budget allocation, as universities can prove what they need on a reliable and verifiable basis.

This helps strengthen the trust between universities and the state and can help the transition from a relationship that has been quite often one of control and mistrust to a partnership with common goals and objectives. Universities will not need to use “creative budgeting” to achieve sustainability if they, in return, can rely on anticipated stable governmental funding. This change in relationship between universities and government will lead to better planning on a long term basis and reduce inefficiencies such as the use of different tools for budgeting (to prove the need for more public funding externally and internally for restrictive budget allocation).



Full costing - why and for whom

Benefits of full costing

Focus 3

Strategic:

- Strategic approach to financial planning
- Consistent approach to evaluating existing and new activities
- Systematic annual approach to activity analysis and costing
- Integration of financial and academic decision-making
- Understanding by institutional management of the full costs of activities

Managerial:

- Better understanding on the part of researchers of the costs associated with research activity
- Greater understanding of the financial implications of academic decisions
- Up-to-date and consistent information for decision-making
- Clearer internal reporting and better allocation of resources

Financial:

- Credible basis for pricing and negotiation with external funders
- Higher recovery of indirect costs
- Better and more efficient resource allocation

Accountability:

- Provides accountability towards public and private funders
- Enables the definition of objectives and measures results
- Controls management results in the light of efficiency, economy and effectiveness
- Justifies and objectifies executive decisions
- Builds trust

Benchmarking:

- Outcomes reasonably consistent throughout the sector

Service:

- Makes data internally more comprehensible

Full costing enables universities to act much more efficiently and base their decisions on sound data. This, in return, assures the government that the funding provided is used in an efficient way. As higher education and research also serve governmental aims (economic growth, etc.) a larger number of efficient universities will help the government to achieve their aims with improved use of resources.

Robust costing systems can further help governments to benchmark their own achievement of objectives more effectively.

Benefits on a European level:

One positive effect on the European level is that sound costing systems help make universities more efficient and sustainable. A larger number of efficient universities can direct additional resources towards the improvement of primary functions (education, research) as well as facilities, academic staff etc.

This, in return, will strengthen the European Higher Education and Research Areas through better facilities and research opportunities with

high quality staff which will make Europe more competitive towards other regions of the world.

Accountability, as described under national benefits, is equally relevant on a European level. If more universities can prove on a reliable basis what they have been doing with money from European funding schemes, the rules of those funding schemes could become simpler for all involved and the significant amount of money spent on demanding administrative procedures by both the funder and the institutions could go directly into research.

Full costing that is based on a robust method will make financial data more comprehensible.

Full costing will equally help in building trust between the funders and the universities that receive the funds. This is a key and significant development in the relationship between those who are in charge of implementing and executing the rules and those who apply for external funding.

Key findings

Benefits for universities include:

- Systematic approach to activity analysis and costing
- More efficient internal resource allocation system
- Improved strategic decision-making based on better understanding of investment decisions
- Benchmarking possibilities
- Enhanced ability to negotiate and price activities, which leads to higher cost recovery

Benefits at national level are:

- Better accountability builds up trust between government, funding agencies and universities and smoothes out transition towards more autonomy.

Benefits at European level are:

- Stronger and more competitive universities help strengthen the European Higher Education and Research Areas.
- Enhanced accountability and trust with the European Commission build the case for simpler and less costly procedures.

► Recommendations

to universities: Weigh up and then outline the multiple benefits of implementing costing systems and build awareness of these benefits within the institution. Start the process of full costing.

to European Institutions: Increase awareness on a European, national and institutional level of the multiple benefits of full costing (e.g. through follow-up activities of the Modernisation Agenda and European Research Area policy frameworks).



Full costing - why and for whom

Obstacles and how to overcome them

Having identified the drivers and benefits of implementing full costing systems and concluded that implementing full costing has many benefits for all stakeholders involved, the project looked at the obstacles that prevent universities from implementing full costing. The picture emerging from our survey shows that there are internal institutional obstacles and external obstacles. Some of those do not hinder the process as such but add to the length and weaken the quality of implementation. The examples have been taken from universities that have successfully implemented costing systems through analysis of the barriers they had to overcome as well as from the experience of universities that are in the process of implementation or wish to start.

Internal institutional obstacles:

Resistance towards change

A widely reported obstacle was resistance towards change within the institutional community, combined with a general resistance towards a more managerial approach in university governance and administration processes.

Those universities that have undergone the implementation recommended an intensive, clear and well-targeted communication strategy.

Lack of Commitment

At several universities a lack of commitment from the top leadership was the reason for a lengthy and difficult implementation or in some cases the reason why such systems have not been implemented. An analysis of both the obstacles and concerns in the process can help identify possible solutions for this. Effective communication strategies on all levels of university leadership to raise awareness of the issue are required. There are various indications that this approach has been effective. Where full costing has been achieved it is no longer seen as a specialist's topic, as more and more leaders of

universities are not only aware of the issue but have a very good understanding of it. (See Box G Uppsala University).

Time Allocation

The major obstacle and concern that was reported and identified in all universities was the challenge of time allocation for academic staff (and in some cases also for other staff).

The analysis shows that the reasons for this are multilayered but that, in spite of the diversity of universities, the issues raised are similar.

In the process of introducing full costing systems, it is automatically assumed that time allocation will be carried out via time recording with time sheets. The resistance towards this form of time keeping has always been strong in higher education. It was often claimed that it cannot be combined with academic freedom. Other countries reported that constitutional law would prevent universities from introducing time recording systems, although a closer look at the legal framework showed that this was not the case.

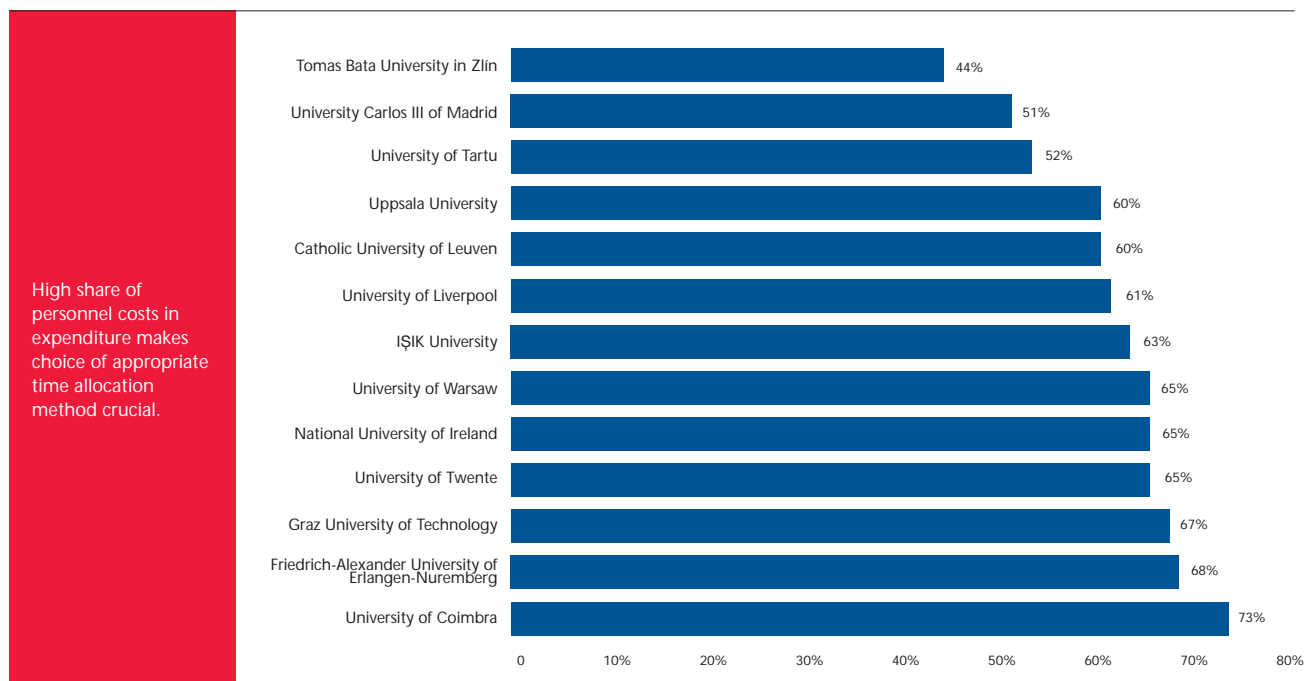
The analysis further shows that the fear that time recording will be used for purposes other than calculating and justifying the full costs of projects and activities plays an important role in the resistance. Other arguments range from an increase in bureaucracy and lost time due to filling in time sheets to the fluidity and complexity of university workloads involving research, teaching and supervision and hence the inherent difficulty of itemising and assigning time allocations. It was interesting to note from the expert conference that faculties with members from professions that are used to time recording (lawyers, business, consultants, etc.) appeared to have fewer problems and proved less resistant to introducing time recording.

There are different methods of time allocation and a wide range of methods of time recording. It is therefore necessary to consider carefully which form is appropriate for which specific university (this might vary from university to university or faculty). The ultimate objective should be the right balance between “effort” and output. The analysis of data from the participating universities showed that similar institutions which employed different methods (from very detailed actual time recording to diary sampling and in-year time

allocation schedules) nevertheless produced similar results in terms of the time allocation for academic staff. This supports the argument for a range of possible methods of time recording and suggests that there is more than one way to achieve the same result.

Some form of time allocation is in any case vital as the majority of universities’ expenditure is on personnel costs (see Figure 6.4).

Figure 6.4 Share of personnel costs in recurrent expenditure of participating universities



Various methods of time recording have proved effective in the universities profiled and, if these methods are properly and appropriately applied, there is no reason why there should be an insistence on any single one of these. National, European and international funders would therefore do well to consider these facts when setting up their time allocation requirements.

Universities which have implemented full costing successfully recommend the inclusion of top academic leaders as “champions” in the implementation process who promote an active, well targeted communication strategy to tackle the resistance towards time allocation. The use of examples of best practice will also help in overcoming resistance.

6

Full costing - why and for whom

Uppsala University - Sweden

Box G

Key facts:

- Nine faculties including a medical school
- Founded 1477
- 41 000 students
- Funding structure: 83% national public, 13% national private and 4% international funding sources

The implementation of the new Swedish model described on p.30 at Uppsala University requires a clear commitment from the management of the university and extensive information and communication activities in order to make the model understood and accepted by the university's researchers. The Vice-Chancellor of the university has made it clear that the commitment of the university management is there, and the communication work has been going on since early in 2008 with presentations to the heads of the most academic departments and discussions with the different administrative units, which will be involved.

Substantial development work must also be done by the University's Finance Division, where a couple of staff members have been assigned the crucial task of adapting the budget and accounting procedures of the university to the new model. Staff members from Uppsala University

also participate in national groups for development of some remaining elements of the new model.

Once the essential aspects of the new model have been implemented, it is the intention of Uppsala University to submit, to the European Commission, an auditor's Certificate of methodology for the calculation of costs in project proposals under the 7th Framework Programme. Such a certificate can only be submitted by an individual institution (beneficiary) and not by the entire group of Swedish universities, but Uppsala University has preliminarily agreed with two other Swedish universities to collaborate in preparing and working on this matter. The three universities are likely to use the same auditor and together discuss any difficult or unclear matters with the auditor and with the responsible unit of the European Commission.

External obstacles:

In some countries and for some universities a lack of autonomy is the major obstacle for implementing costing systems.

This lack of autonomy comes in different forms: some countries still have a form of bookkeeping that does not allow the introduction of a full costing system structure. For example some German Länder still apply the cameralistic system (a cash based, non-double entry bookkeeping) system as an accounting system. In these cases individual changes within the universities are not possible.

Implementing a costing system is, of course, more difficult in countries with a federal structure

where higher education is the competency of these federal units and changes require coordination on federal and state level. In 1999 a working group of university chancellors (Kanzler) in Germany developed an accounting and costing framework that was accepted by all federal ministers of education and the majority of all German universities (see Focus 4: Cost accounting in Germany) but this was not put into action. Despite the fact that the German Institute of Chartered Accountants recommended this as good practice for universities, the Conference of Finance Ministers of the German Federal States did not accept the method.

The working group of German University Chancellors' on cost-accounting in higher education developed a system of accounting rules for German higher education institutions. This system, which found approval with the vast majority of universities in 1999 at the University of Greifswald ("Greifswald resolution"), was accepted by the German Institute of Chartered Accountants as a basis for good practice in university accounting. The Conference of Ministers of Education of the German Federal States approved the rules as well. The Conference of Ministers of Finance of the German Federal States, however, did not give final approval for the paper. Thus with Ministers of Finance in charge of the accounting systems in their respective Federal States, the "Greifswald resolution" was not applied throughout the system. It nevertheless significantly influenced accounting systems developed in the Federal States of Germany.

The other major influence on accounting practice in German higher education institutions is the cost-accounting framework developed by the Federal Ministry of Finance in cooperation with the State Ministries of Finance. This framework mainly addresses the accounting needs of public administration and not so much those of higher education institutions. Nevertheless this framework had some effect. So, within the 16 Federal States, 16 different systems were developed based on the above deliberations. To make the situation even more complex, some states were already moving from the cameralistic to double-entry bookkeeping.

It is not just federal states which encounter problems, but also countries with centralised governance structures. In France, prior to the latest reform processes, financing of most of human resources came from outside the university and staff were directly paid by the national government. In this case the introduction of a full costing system on institutional level is not possible or at least has a different dimension as its steering capacity is limited. Experts reported that, due to the complexity of the research environment in France, it is often the case that university laboratories house not only staff employed by the university but also by other research institutions. The facilities are supported by the university, but in a number of cases the university does not know the exact number of staff working in the laboratory. This is of course one element that makes the identification of the real full costs difficult.

There are different degrees of autonomy. Often vital elements of true autonomy are missing. If these missing elements include the ability to make strategic decisions, reallocate surpluses, or decide on staffing issues, this will of course have a negative impact on the university's motivation to implement full costing.

The solution to this problem is again a call for a greater autonomy for universities.

Another obstacle encountered was the lack of external support for the implementation. While the benefits for institutions are, on the one hand, quite clear, the degree of benefit will necessarily vary with the individual university and its capability. The analysis of the impact of external support (see p.54) and status of development (see p.28) shows a strong connection between the two.

Equally, the status of development has an effect on an institution's capability to implement costing

systems in the first place. Implementation is in general a costly process and only universities with a certain financial flexibility are able to do this without external support (see Box D University of Coimbra). The study confirmed that the status of development is hugely diverse throughout Europe (see p.28).

Another barrier is that a "low cost culture" is leading to unrealistic pricing. While the majority of European universities are just starting the process of identifying their costs, the long term aim is to establish correct pricing of activities. Institutional strategy will need to define the areas in which a price that does not cover the full costs is acceptable as well as define areas where there is a market where the price can be higher than the costs.

A further obstacle which is increasingly becoming an issue is that external competitive project funding usually only partly covers the full costs. The consequences are twofold: (i) the analysis of project data suggests that universities are becoming more aware that it endangers their financial sustainability if they carry out projects that are not fully funded and for which they cannot find any further funding, and (ii) there is evidence that more universities set up policies that only allow applications for external funding to be made (to FP7, national and private funding) if the missing amount of funding can be provided from elsewhere. The undertaking of a research project at less than full cost may only occur after a careful consideration of specific factors involved such as the development of a strategic research priority in the university, projects where the sponsor purchases specialised equipment that will remain the property of the university or projects which are pilot investigations for large fully-funded projects.

6

Full costing - why and for whom

There is a danger that the objectives of national and European funding programmes, such as enhanced research capacity, innovation and economic growth will not be fully met, if an increasing number of universities refrain from making applications because they fear they will not recover the full costs of projects/activities undertaken. It is difficult to find funding for a small part of a project (for example a certain percentage of indirect costs) because the project results and findings of the research are usually submitted to the main sponsor or funder of the project. Finding private sources ready to provide the extra funding seems therefore an unlikely prospect. Some governments acknowledge this difficulty and set up, in some cases, matching

funds to subsidise the difference in costs. This will help with certain aspects but will not replace the call/need for full funding from one source on a full cost basis. This would also reduce the inequality between countries where such funds exist and others which have no such option.

Of course the introduction of funding on a full cost basis would in itself motivate universities to measure their full costs. The project found universities that have little motivation to install full costing systems as long as the project costs are not recovered on a full cost basis (see Box H University of Tartu), but would do so if this were the case.

University of Tartu - Estonia

Box H

Key facts:

- Founded 1632
- Ten faculties; five University Colleges in different regions, the only university in Estonia including medical education.
- Number of students: 18 267 of which 57% are on the government-funded study-places and 43% on full-fee-paying places.
- Funding structure: 69% national public, 22% national private, 7% international and 2% other funding sources

Lack of drivers at national level:

- In 2003/04 the Estonian Ministry of Education and Research initiated a project to develop a full costing methodology for different programmes provided by universities. The results of the project were approved by the Minister; however, current funding contracts with universities are not based on this approach mainly due to the lack of resources available for funding teaching in universities.
- At present there is no national initiative to develop further a common costing methodology for indirect costs accepted by the Government and the stakeholders.
- The motivation to develop a country-wide full costing model initiated by the Higher Education sector is hindered also by the lack of willingness to base research contracts on full costs. Funders have so far preferred to resort to funding based on direct costs, traceable via invoices.

Institutional development:

- At the same time the University of Tartu has developed its information system and analyses the indirect costs of its teaching and research contracts annually.
- Improving the allocation of space costs has been a big part of this process. All the space of the University has been entered in the inventory and connected to the corresponding Structural Units thus allowing for space cost allocation (heating, electricity, cleaning, in-house monitoring, cloakroom service, etc) to these units and potentially to the activities carried out within these units.
- The university has the necessary data base (information systems, detailed cost information) in order to design a methodology to calculate indirect costs of its activities by spring 2009. There is also capacity to make the corresponding calculations based on the contractual income and costs of the activities carried out in 2008.

Funding Schemes

A specific example that requires separate analysis within the project's findings under this chapter of "full costing why and for whom" is the role of European funding programmes, such as the 7th Research Framework Programme. This analysis is of key importance as FP7 often acts as a role model for national and private funding schemes.

As described in section "Recognising similarities between Higher Education Institutions" (see p.21), the 7th Framework Programme has played a very positive role in the development of full costing in European universities. But certain aspects of the design, implementation and interpretation of this important funding programme have created a curious situation, where a move which was meant to be a positive

driver for change, can become an obstacle in the implementation process of full costing systems.

Member of European Parliament Gunnar Hoekmark, who was actively involved with the FP7 Rules of participation co-decision procedures, addressed these issues at the expert conference. He emphasised that the intention of the rules of participation of the 7th Framework Programme was to "*make less rules binding, reduce reporting, reduce the amount of bureaucracy involved and make the process simpler for all involved*". He added that an underlying concern of the application of the rules should be to build trust and confidence between the FP7 administrative authorities and its partners, and with respect to universities he stated that the general approach should be that "*We can trust our institutions.*"

Full economic cost (FEC) in the United Kingdom and European Project Costs

Focus 5

In 2005/06, Universities UK (UUK) co-ordinated a project to analyse the costs of FP6 projects on an FEC basis, in order to understand better whether there were any potential effects from the introduction of FEC on institutional engagement with the programme. The project illustrated and quantified the funding gap based on use of the additional cost model, and highlighted the issues for institutions (along with the academic benefits of engagement). In 2007 and 2008 UUK has co-ordinated a further exercise to determine how the TRAC methodology for costing projects would need to be modified in order to meet the requirements of FP7.

This required a comparative review of the methodology against the FP7 requirements. Significantly, the UK methodology met the requirements, although a number of areas were identified for adjustment or detailed work. In particular, TRAC EC-FP7 requires five changes to be made to the TRAC-FEC processes:

- i) Exclusion of ineligible costs from the indirect cost rate;
- ii) The completion of project timesheets by academic staff working on the FP7 projects (who are not spending 100% of their time working on a project);
- iii) Reflection of the actual time and salary of academics working on FP7 projects;
- iv) Reflection of actual indirect cost rates and actual time on FP7 projects;
- v) Additional quality assurance.

The ineligible costs to be removed from the indirect cost rate are the cost adjustments (the net infrastructure charge, and the gross return for financing and investment), irrecoverable VAT, VAT on overseas expenditures, exchange rate gains or losses, any

provisions, and the finance elements of any lease costs. In addition, depreciation should be included on an historical cost basis rather than on a current cost revaluation basis. These are all achievable, with agreement that irrecoverable VAT could be handled using the partial exemption methods that institutions currently operate.

The requirement for staff involved in FP7 projects to complete full monthly timesheets (showing total productive hours and hours charged to EC FP7 projects) is technically achievable, but will have an impact on staff, as this level of recording is not currently required. It is likely to be the area of most discussion, given the nature of academic time management.

The data captured in the timesheets would then be used to charge the staff time to their projects, rather than using the estimates of time determined at application or award stage, which is the approach under the standard FEC methodology. This will require additional processes within most institutions.

Similarly, under the standard FEC methodology, indirect costs are charged on an estimated basis (using historic costs), whereas the EC-FP7 variation will require charging based on actual costs (i.e. charging after the period end), except where actual costs are not yet available (e.g. for the final claim), when an estimate is allowable. This will also require adjustment to institutional operational processes.

In terms of additional quality assurance, the UK's Quality Assurance and Validation process can be extended to include a specific review of an institution's implementation of the EC-FP7 methodology, in order to provide the necessary assurance.

6

Full costing - why and for whom

Among the difficulties experienced with European funding schemes such as FP7 are the inflexibility of its administrative procedures, leading to problems with interpretation, unclear and conflicting rules, and a lack of trust between funder and beneficiaries, which, in turn, lead to uncertainty in the university community on the implementation of full costing. This issue needs to be addressed urgently and without the allocation of blame. A thorough analysis of the current state of play would be advisable prior to the 2010 review to help to inform decision makers on any adjustments needed to be made to FP7, and to contribute to the design and implementation of future programmes. It is clear that funding programme administrative procedures must ensure that the money used is spent appropriately and that measures to avoid misuse of funds have to be put in place. But the further development of EU Framework Programmes should address the original intentions of achieving greater simplification of the procedures.

Many universities that have participated in EU Research Framework Programmes pointed out that this goal of simplification is far from achieved. Various cases from the project indicate that the lack of trust between funder and university is significant and that there is a great necessity for trust building. In particular, a very strict interpretation of rules does not take account of the diverse systems which exist in Europe's universities.

This situation engenders an atmosphere of uncertainty in the university community which in turn can have negative effects on any attempt to introduce full costing. Austria's attempt to have their costing method certified by the European Commission is a case in point.

In this case, the EU Research Framework Programme was a key motivation in Austrian universities' move to implement a full costing system. It led to a countrywide initiative to design a costing system for all universities that would also correspond to the certification criteria. But the attempt to have this new design approved by the European Commission failed.

The unified system, which Austria attempted to achieve, would have had many other benefits for universities (benchmarking for the universities, cost efficiencies in the implementation and service of the system, etc.). The certification process, although initially quite promising, took too long and uncertainties over the rules led to the abandonment of any common approach among universities. As a consequence, many Austrian universities reported that they would wait and see how others dealt with the process before implementing full costing themselves. The project found that this "wait and see" policy was quite common across Europe.

Key facts:

- Seven faculties
- Founded 1811
- 8 780 students
- Funding structure: 75% national public, 10% national private, 10% international and 5% other funding sources

Drivers:

- UG 2002 (Universities Act) came into effect for Austrian universities on 1st January 2004 – Austrian universities become legal entities under public law.
- It also states that every university shall install an accounting system, including income and expenditure accounting and a reporting system, appropriate to its duties, which shall fall under the responsibility and management of the rectorate.
- Necessary prerequisites include having a comprehensive financial software programme, double-entry bookkeeping, structural changes etc.
- FP7 (especially the Rules for Participation and the essential provision to facilitate the transition process from the accounting system in FP6 (Additional Cost Calculation) by using a simplified method to calculate the full costs) and other external competitive funding schemes with their conditions of cost recovery.
- full costing as a strategic decision making and management tool.

Progress:

- May 2005: developing a method to calculate indirect costs which would both correspond to national and international financial rules and the universities' own management and accounting principles (of a number of models that could be drawn upon for this purpose, the closest was one found in use in the United States).

- A task force comprising finance and research staff members from Austrian universities evaluated this method and the Austrian Rectors' Conference agreed to apply this model. In December 2006 the Austrian Rectors' Conference sent a description of this "simplified" method for the calculation of indirect eligible costs to the European Commission, DG Research.
- In the following months, due to different reasons and obstacles such as changes in management and/or uncertainty in the ongoing procedures (waiting for an international best practice method FP7), fears of misunderstandings in the interpretation of regulations and variation between institutions in research funding sources etc., the unified approach was abandoned.
- Each university is now implementing an appropriate system for tracking research, education and other activities' costs according to their own abilities, terms and conditions.
- Currently, the motivation to develop a full costing system is low. In Austria, national external competitive funding schemes are not willing to cover full costs of research activities and projects of universities, thus forcing them to fall short of real cost, due to a limited indirect cost rate for universities (e.g. 20% of personnel costs).
- Nevertheless, at Graz University of Technology the combination of factors outlined above (drivers) has resulted in advancement in calculating indirect costs and establishing a sustainable costing system by itself.



Full costing - why and for whom

Another major concern is that the amount of staff time, technical resources and money spent on software and consultants etc. in order to comply with EU Research Framework Programme rules is very high. There are no official figures available, but on examining the number of beneficiaries from Higher Education institutions in FP5 and FP6 it can be assumed that there will be a substantial number of European

universities affected by the rules of FP7. It is quite evident that these rules need to be further simplified to be easy to understand with clear indications about procedures in the application and certification of costing methodologies (recognising existing sound management principles and taking account of the differences in costing and accounting methodologies in practice in European countries).

Tomas Bata University in Zlín - Czech Republic

Box J

Key facts:

- Four faculties
- Established in 2001
- 8544 students
- Funding structure: 84% national public, 9% national private, 0,3% international and 7% other funding sources

Background:

In the Czech Republic, commitment to the introduction of a cost accounting system is currently being undermined by an inability to decide how costs should be allocated to education and research. The search is currently on for a method that would be suitable for all who need it.

The government currently provides research grants to cover indirect costs to a maximum of 20% of direct costs. Remaining indirect costs are to be covered by participation in projects. As for FP7, the Czech Republic is unable to use either an analytical accounting system or the simplified method due to the lack of decision on the allocation of costs to education and research and so uses the flat rate of 60%, which the universities consider as acceptable and the appropriate rate of indirect costs. If the flat rate falls below 60%, then, due to limited resources, the universities would have to reduce their quantity of projects.

Drivers:

The major driver for TBU is the management's commitment to adopt a full costing methodology motivated by a solid understanding of its advantages. Although there is currently no time schedule of the implementation of a system

or any project structure, the TBU management would like it to be implemented as soon as possible to allow for decisions based on the knowledge of real costs. Competition between universities is fierce and the TBU management needs to be aware of real costs in order to function effectively. Moreover a full costing system would allow better resource allocation and facilitate, in the long run, the university's financial sustainability. The participation in FP7 with a full costing system would not only allow the university to raise its academic and scientific profile but also to fund real costs.

Barriers:

The major barrier to the introduction of a full costing system is the lack of decision on cost allocation but there are also other obstacles to overcome. TBU has no experience with such systems and no external financial support is available for the implementation. No increase in staffing is envisaged for the implementation, which would strain current staff resources and data collection such as timesheets or machine utilisation may prove difficult. The current internal accounting system would require a thorough overhaul.

Key findings

Institutional obstacles are:

- Resistance towards change
- Resistance towards managerial approach in universities
- Concerns over time accounting
- Management and Leadership commitment

External obstacles are:

- Lack of autonomy and other legal barriers
- Lack of trust between stakeholders, in particular between funders and universities
- Implementation of full costing is a costly process and strains financial, technical and human resources
- Risk of system being too complicated and bureaucratic
- Low cost culture/restricted markets and pricing
- External competitive funding does not cover full costs of projects
- Complex, changing rules for participation and certification lead to uncertainty and cause universities to refrain from taking initiatives.

► Recommendations

to European institutions and national governments and other funders: Move towards funding on a full cost basis to contribute to financial sustainability and encourage other external funders to move in the same direction.

to European institutions: Further simplify the rules for both FP7 and future European research funding programmes. Greater dialogue and analyses of existing rules and practices and how they are implemented should be fostered, involving representatives from universities and the relevant European Institutions to allow for an optimum grasp of the situation, to achieve more efficiency in administrative procedures and to remove unclear or conflicting regulations at the 2010 review.



Full costing - why and for whom

External support for full costing development and implementation

Analysis of the project's case studies shows that designing, planning and implementing full costing is a demanding and expensive process. It requires the commitment and effort of the whole institution and substantial funding.

The process involves the introduction of new accounting principles, which, in turn, dictate the design or adjustment of software programmes, the set up and collation of databases (including estates, use of space, staff, etc.) and often fundamental changes to the structure of the institution itself.

An increasingly large number of universities is aware of the benefits of making such a change to their organisation but their ability to implement full costing is dependent on their financial capacity. Some universities have benefited from external support in terms of funding and/or government-provided consultants. This project aimed to analyse the availability and nature of external support and assess its importance for the implementation of full costing.

In the cases analysed support was found to come at three different stages of the process:

- a) Getting started – for the development of the model
- b) Making changes – for the implementation process of the model
- c) Reaping the benefits of full costing– receiving funding on a full cost basis or at least on the basis of a higher percentage of full costs. (While this is obviously one of the main drivers for the implementation of full costing in the first place, it should nevertheless be included as a vital form of support for the process.)

External support of the type described above has far-reaching effects. In the case of the UK, which benefited from support at all 3 stages, not only did it lead to a very sophisticated form of full costing, but it also contributed to transforming the low price culture in funding higher education and research.

External support from governments and funding agencies can come in other forms. It may encompass the government expressing a fundamental concern about the issue and therefore bringing it to the relevant parties' attention, expressing clear expectations and requirements of the sector, and providing concrete consultancy for the development of full costing systems in the form of experts. Advisory/consultancy support includes workshops, conferences, training, development of guidance materials, communication through websites, etc.

Key facts:

- Nineteen faculties
- Founded 1816
- 64 526 students
- Funding structure: 80% national public, 0,5% national private, 10% international and 9% other funding sources

In the academic year 2007/2008, a special project concerning Staff Mobility and Staff Training Mobility supported by the Lifelong Learning Programme (Erasmus) started. The purpose is to provide the beneficiaries with opportunities to learn from the experiences and good practices within a partner institution and to improve skills needed in their current position. The university administrative staff (research manager and research project managers - central and faculty level) go to the selected West-

European universities in order to find out how advanced they are with the implementation of full costing, which measures had to be taken to implement it, whether they received any external support and whether they implemented an individual strategy or a national common strategy, if any.

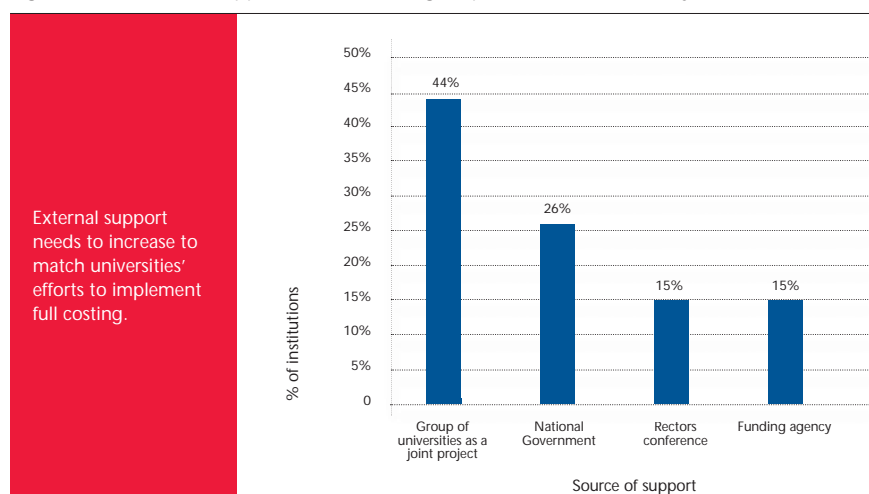
On their return, a report will be drafted with recommendations for the university authorities.

The identified support activities were provided by:

- a. Organisations representing all universities (e.g. Rectors' Conferences)
- b. National agencies responsible for the funding and/or organisation of universities
- c. International organisations and other external funding bodies
- d. External consultants

It is also of great interest to note that 44% of universities represented at the expert conference effectively received support for full costing "from each other", over and above any other external support, through forming a "group of universities as a joint project". This allowed them to downsize costs per university through an ability to share, for example, consultancy services, and profit from multiple forms of knowledge-sharing.

Figure 6.5 Sources of support for full costing (Expert Conference survey)





Full costing - why and for whom

Friedrich-Alexander University of Erlangen-Nuremberg - Germany

Box L

Key facts:

- Founded 1743
- 25 855 students
- 469 professors
- 3 982 teaching staff
- Five faculties including a medical school
- Funding structure: 81% national public, 10% national private, 1% international and 8% other funding sources

The University of Erlangen-Nuremberg does not yet use a costing system. However, a concept has been adopted by the Bavarian universities providing for the introduction of cost-type and cost-centre accounting on the basis of state-wide standards, as well as an asset accounting which allows for depreciation of current assets. Implementation began in January 2008 and the deadline for completion is the end of 2009. There are plans to develop further the cost-type and cost-centre accounting into cost-unit accounting in order to evaluate better specific subjects and research projects. This scheme will allow the University of Erlangen-Nuremberg to justify its costs better vis-à-vis its industrial partners, who represent an important part of funding and provide proof of an efficient use of funds. Implementing cost accounting on the basis of double-entry bookkeeping at the University of Erlangen-Nuremberg began with the university's hospital. In 1990 an electronic enterprise resource planning system (SAP R 3), based on a 1972 federal regulation for hospitals, was chosen and subsequently implemented – the hospital of the university at that time being the first hospital worldwide to use this new

system. Since implementation of the system was completed in 1994, balance sheets have been prepared and published on a regular basis.

In 1997 the university began working towards a costing system for the university as a whole as a member of the working group of German University Chancellors on cost-accounting in higher education. (For details see Focus 4 Cost accounting in Germany)

In December 2001, the Free State of Bavaria decided to introduce a state-wide accounting system for all public institutions – including the universities – and set up a framework. A steering committee presided over by the Ministry of Science, Research and the Arts in cooperation with the Ministry of Finance developed special regulations for the universities based on the federal framework for cost accounting and the Greifswald principles. According to the innovation agreement between the Free State of Bavaria and the universities, the implementation of an accounting system that will also allow the identification of the full costs of its activities at the University of Erlangen-Nuremberg will be supported by state funds of 380.000€ for the years 2007 to 2009.

The importance of external support was confirmed by the institutional case studies and country analysis as well as by participants in the expert conference. There were several examples, where there was no national initiative and no support available. In these cases there was no development of full costing.

Chapter 5 analysed the development of full costing within the participating countries and individual universities. Examining the different

stages of development and whether or not there was some form of support involved, most of the institutions with more developed systems in place reported both financial and advisory support. Universities where less or no development in full costing has taken place report in most cases that there was no support available for them. External support is thus essential if substantial progress is to be expected in future years.

Key findings

- Support can come at all stages of full costing development and implementation, from different sources and under several forms (financial, advisory...).
- Most advanced developments are the result of combined support at every step of the process.
- Support has been used effectively as incentive to develop full costing.
- External support needs to be increased to match universities' joint efforts to implement full costing, if substantial progress is to be achieved in the coming years.



Recommendations

to national governments: Provide financial, technical, advisory and Human Resource support in implementing costing systems.

Recognise that universities need enhanced financial capacity to implement full costing.

6

Full costing - why and for whom

Complexity

Full costing is a complex process that has to be implemented appropriately according to the specific needs and context of the institutions. It has to satisfy a number of different objectives and stakeholders, and it has to be flexible and robust enough to accommodate all the different, sometimes conflicting needs within a sound administrative framework. This target seems to be difficult to achieve, in particular when there is a lack of support as described in the previous chapters.

This complexity adds to the length and the costs of implementation of a full costing system. But designing a costing system to respond only to limited specific needs would risk the system's flexibility, leaving it unable to cater for the diverse needs of the future. Therefore, it is important that universities themselves have long term goals in mind when designing their system.

Although the system should maintain maximum flexibility and therefore applicability, it is important that it does not become so complex that there are only a couple of specialists within an institution who understand it. While it is clear that implementing a full costing system in a university is a complex process, it should not be made more difficult than necessary. Full costing is a means to achieve certain ends and not an end in itself.

The expert conference revealed a great concern among institutional representatives that consultants and software companies are taking advantage of the complexity of full costing systems. It was felt that these consultants and software companies were adding to the complexity as they may have a vested interest in the implementation of very sophisticated systems. Experience showed that the advice given was not always based on profound knowledge of the needs and environment of higher education and research. This would suggest the need for

the European Higher Education and Research community to share examples of best practice. EUA is exploring the possibilities of acting as a catalyst in this process to disseminate best practice and guidance.

The diverse requirements of external funding schemes, established to ensure accountability, play a significant part in increasing the complexity of full costing. The schemes do not take account of the fact that other funding schemes have different rules, with different obligations. There is no coordination between them or agreement on a basic set of rules to ensure accountability. Instead, each funding scheme imposes different (sometimes conflicting) rules for universities that make it difficult for them to establish well designed processes. As higher education institutions' need for external funding grows in Europe, this becomes an increasingly significant issue. Universities have to take account of all the different rules and design their systems accordingly. When this is combined with inflexibility on the part of the funding schemes towards differing national costing and accounting methods, the complexity becomes a major barrier.

VAT rules, for instance, also play a role. Where countries have not set up processes to refund VAT, their universities are quite clearly put at a disadvantage.

This situation calls not only for a simplification of rules in funding schemes but also for more coordination between national, European and international funding schemes. Often even funding schemes offered by the same organisation have hugely diverse rules for different programmes. And "simplification" all too often stands for simplification of the procedures of funders and not for those who apply for, and receive, funding.

Key findings

- There is a risk of making costing systems too complex.
- It is necessary to understand consequences of costing and accounting systems – Existing systems need to be carefully evaluated.
- There is a risk that complex systems are imposed on other countries' universities without taking account of the individual environment.
- Diverse requirements of external funding schemes increase the complexity of full costing. This situation calls for simplification and improved coordination among different schemes.

► Recommendations

to Universities: Understand the complexity and multiple purposes of costing systems and the requirements of stakeholders and then take account of these factors in the overall design.

to National and European institutions: Work towards more coherent conditions for external funding requirements at European and national level.

Full costing: Common principles – different models

This chapter examines various costing models, their common principles and how they differ in practice. The final chapter of this report will then outline some common steps in the design of costing models in HEIs.

The diversity of Europe's HEIs should not be viewed as merely a hindrance in designing a uniform approach to full costing, but, in fact, as a necessary or even desirable aspect of their evolution. Their diversity reflects the myriad products they offer and the different environments in which they operate. In its Lisbon declaration, EUA stated that "universities recognise that moving from elite to a mass system of higher education implies the existence of universities with different missions and strengths. This requires a system of academic institutions with highly diversified profiles, based on equality of esteem for different missions. Institutions will increasingly offer different kinds of study programmes leading to a wide spectrum of graduate qualifications that allow progression routes from one institution to another and will develop research, innovation and knowledge transfer activities in line with their diverse missions."

No uniform full costing system for Europe's universities is possible, or even desirable, if it does not reflect this diversity. This, however, does not mean that costing models will not operate according to certain common principles. This chapter will try to set out those common principles which will form the foundation of costing models and then will consider which elements must remain flexible to allow for diverse structures, products or contexts. The analysis is based on activity-based costing as this approach was the most common in universities that have already implemented such a system. It is also a model recommended by the International Federation of Accountants because it reflects the underlying reality of an organisation's workings as closely as affordability allows.

The following are then common principles which will form the basis for varying approaches according to a university's specific context:

Identification of activities:

Each model should include a process by which its activities can be identified. This will usually comprise teaching, research and support, but can be extended to include a much larger range of activities. The universities included in the project tended to use a limited number of activities. The advantage of limiting the number of activities identified is that it makes the process of data gathering and allocation simpler. The aims and objectives of the costing methodology will have an influence on the concrete choice and number of activities identified for the costing process. Once established the activities can be further categorised.

Teaching could, for example, be split into undergraduate teaching, postgraduate teaching, and continuing education. The activity "research" for example has in some cases been categorised according to the funding bodies for which research is undertaken.

In a number of cases it will not be easy to identify whether an activity is either teaching or research. A seminar in a doctoral school, for example could be classified as teaching or as research depending on the aim and purpose. Activities in university hospitals can often be a service to the public and teaching at the same time. This is why the concrete choice and allocation of activities needs to be made on an individual basis.

Identification of cost drivers:

Another common element in the design of a costing model is the choice and identification of cost drivers. The participating universities had different approaches in their choice of cost drivers, both in terms of their selection (such as number of staff, square metres) as well as in terms of the number of cost drivers used.

One university developed two different methodologies and used different cost drivers in each of them as well as a different cost basis. It was interesting to see that they achieved more or less the same results, which shows that different methods can reach the same conclusions.

The case of the University of Amsterdam

Focus 6

The University of Amsterdam has implemented full costing by first denominating the primary activities conducted in the University: Teaching, Research, Other (care for patients, consultancies, guardianship of cultural heritage).

Then cost drivers were divided into two categories: the primary cost driver being the time spent by academic staff (hours per FTE), the secondary drivers including:

- time spent by support staff,
- use of space and housing facilities (#sqm),
- ICT-facilities (#workstations),
- administrative support (k€ revenue, k€ costs, #FTE, #used),
- use of university library (#FTE academic staff),
- student support and facilities (#students),
- use of dedicated research facilities (time used / % cost increase)

UvA followed the cost allocation methodology consisting in separating direct from indirect costs, the latter being allocated a number of cost pools according to cost drivers.

Given the importance of time spent by academic staff (primary cost driver), special attention was given to the designing of an appropriate time allocation methodology. A differentiated approach was privileged, using active week-to-week time recording for staff employed in contract activities (when required) through timesheets, and passive “background” recording through periodically adjusted timetables for all other personnel.

Identification of cost objects:

Each model needs to identify cost objects. According to activity-based costing theory, a cost object creates a demand for activities, which in turn incur costs. Courses, subjects, credits, research projects, undergraduate students, postgraduate students, and commercial services are examples of cost objects. The concrete choice of cost objects will again depend on specific institutional context and their objectives.

Cost basis

Every model requires a cost basis, but the data for the cost basis can come from different sources such as financial systems, Human Resources systems or other sources.

The choice of sources will be determined to a certain extent by the data and systems available, but these should be evaluated to see if they are fit for this purpose.

The participating universities used different methods for establishing their cost bases. There are two main methods of establishing a cost basis, one uses historical data, the other extracts costs on an actual basis, usually derived from current financial and human resources systems, requiring complex and sophisticated software and data structure. The historical method analyses costs from previous periods from a wide range of sources, for example financial statements.

6

Full costing - why and for whom

Choice of adequate time allocation methodology/ Determination of staff time:

One of the most difficult aspects of implementing full costing is the way staff time is allocated. It represents a major institutional barrier (see “Obstacles and how to overcome them”, p.44). Nevertheless it forms a crucial aspect of full costing as staff costs represent the majority of expenses in most HEIs (within the participating universities they make up to 73% of all costs). Each costing model has to set up a system to determine how staff time is spent and then allocate this accordingly.

One challenge in determining academic staff time is that they usually perform overlapping and interrelated activities and teaching and research are not always separable. At the same time it is obvious that the more activities performed by staff which interrelate, the less chance there is of establishing how much time is devoted to the activities in question.

It was interesting to see that within the group of participating universities different methods of time allocation provided similar results. This supports the adoption of a range of possible methods of time recording and suggests that there is more than one way to achieve the same result.

There are accounting practitioners and experts in costing who do not consider time recording through timesheets as ideal, in particular if it is not only used for time recording for particular projects, but in order to determine and allocate time for academic and administrative staff for all their activities.

Methods of time allocation

Focus 7

Staff surveys

Staff surveys can either be carried out electronically via e-mail or through an online database.

Staff members are required to fill in surveys to assess their time allocation. Surveys typically include a list of activity types whose degree of precision is calibrated according to the institution's needs. The loosest categorisation for academic staff time is “research”, “education”, “other” (used in the British TRAC system). Other HEIs resort to a much more sophisticated list including sub-types of activities. Completion of those surveys is mandatory to ensure a satisfactory response rate. Surveys usually cover periods of a semester or a full year and are submitted to staff on a regular but acceptable basis. The UK system foresees that the survey must be filled every year by only one-third of the staff.

Staff interviews

Staff interviews can take the form of individual, one-to-one interviews aimed at gaining an accurate knowledge of staff's time allocation or as interviews of staff with managerial positions who are able to account for the time allocation of a unit or service (especially for non-academic staff).

Timesheets

Staff members are required to record their time allocation on a routine basis (use of excel sheets or online device).

Profile creation

Design of a number of profiles for individuals performing similar tasks, utilising existing information on output, performance, standards (i.e. number of research students supervised)

Other techniques

Workshops can help management determine staff members' time allocation by providing a forum where staff can present data and technical estimates, or where staff members are asked to divide their work up into activities and fill in an activity sheet based on their activities over the previous year.

Whatever method is used, this method needs to be sufficiently “robust” and provide reliable data. Experience shows that universities which are at an advanced stage in the process of introducing full costing tend to resort to a combination of different methods. Thus, each university should choose carefully the methods that fit its objectives, taking into account time consumption, cost, reliability and cultural adequacy.

Each method has its own advantages and disadvantages in terms of time, cost, reliability and acceptability. Universities should therefore carefully consider all the possibilities in time recording to ensure that the chosen combination best suits the characteristics of the university.

Different models of time recording

Focus 8

University of Liverpool

Time accounting in the University of Liverpool is based on quarterly retrospective reporting of hours worked across three activities (teaching, research and other) and their sub-activities. All staff in the academic departments have to fill in electronic Time Allocation Schedules every three years. The year for which each member of the staff has to provide data is determined by the division of academic departments into three distinct groups corresponding to the three-year rolling data collection cycle:

Year 1: Staff in the Faculties of Medicine and Veterinary Sciences together with staff from the Centre for Lifelong Learning

Year 2: Staff in the Faculties of Arts and Social & Environmental Studies

Year 3: Staff in the Faculties of Science and Engineering

The experience of the University of Liverpool has shown more than 90% return rate of filled in schedules, which provides a good base for the analysis of how staff costs should be allocated to different activities.

Uppsala University

At present there is an obligation in Uppsala University for every employee working on an EU-funded project to produce an account of how his/her time has been used at least once a month. This account has to be approved by the respective project leaders. For other externally funded research projects and other activities of the staff there are so far no requirements for time recording. Such requirements will come in 2009 when Uppsala University will implement the new accounting system developed by the Association of Swedish Higher Education and described on p.30. This new accounting system will necessitate some form of general time recording. It will most likely be based on retrospective

estimates, perhaps twice a year. For staff participating in EU-funded projects the requirements will have to be more stringent and the details in this respect still have to be developed further.

University of Coimbra

Time accounting (TA) for academic and non-academic staff is carried out according to the following procedures and principles:

- Periodicity – by semester;
- Each Dean is responsible for the data validation;
- The Faculty's data system automatically fills in the data known, assigning it to the teaching activity distribution or using an estimate in the case of externally funded projects (class time allocation / coordination / participation in projects);
- The responsible for TA will then modify or correct the automatically loaded data and will insert the remaining data. This person can delegate this responsibility to the programme responsible/project coordinators or even at individual level (teacher/researcher). In practice, responsibilities are assumed in different ways in the light of the dimension/nature of the activities and the Dean's leadership characteristics;
- Time allocation is done according to the different activities and criteria:
 - Teaching (1st cycle; 2nd cycle; 3rd cycle; other teaching programmes) - The information must disaggregate the number of hours of classes from the number of hours for preparation, and this is called “support to T&L”.
 - Research [current institutional research; research in other legal entities (spin-off; associations); I&D Research; project-funded research].
 - Management – Faculty/Department Management, other.

6

Full costing - why and for whom

In June 2008, IFAC, The International Federation of Accountants, an organisation committed to developing high quality international standards, published an international good practice guide in costing, which establishes 8 key principles for costing, which confirm the project's findings and recommendations.

One of these principles declares that the design, implementation, and continuous improvement of costing methods, data collection, and systems should reflect a balance between the required level of accuracy and cost.

Another principle says that "costing systems should focus on helping an organisation achieve its strategic objectives, and take into account the nature of an organisation, its business model, its culture, structure and competitive environment. No one costing system is therefore appropriate for all organisations, and costing methods will vary from organisation to organisation. Costing systems should be designed to meet individual organisational needs, characteristics, and cost structure."

This underpins the recommendation to national, European and international funding schemes that they should accept a diverse range of costing methods instead of forcing all institutions to adopt one system. Funding agencies which influence the design of the rules for costing models need to be aware of this and it would be beneficial to respect this in the current and future design of rules of participation and concrete guidelines. They need to ensure, on the one hand, the accountability for funds received but, on the other, they need to allow space for individual design and context.

European funding bodies have attempted to simplify the process of recovering indirect costs by certifying certain methods of calculating those costs. But this certification process should allow for different methods of identifying activities, cost objects, cost drivers, cost basis and determination of staff time and its allocation.

The full costing system developed by the Graz University of Technology

Focus 9

In 2005, double-entry bookkeeping for universities was introduced in Austria which necessitated a change in software. This established a heavy-handed reporting procedure for projects. The project leader has to notify the controlling department before starting the project, which, after checking contract and budget, provides an internal project number. Without this number (similar to a cost centre) a project leader cannot make any payments or receive any funds. Only direct costs of research projects are recorded under this number, for example, personnel costs for research staff. As far as equipment costs are concerned, only depreciation for the duration of a project comes under this number, along with consumables, travel costs etc. No teaching costs for permanent staff are recorded under this project number.

Every university "activity" receives such an internal project number. Through this system Austrian universities have very accurate direct eligible costs for research projects in their accounting system.

Based on the actual financial statement (on the accounts in SAP) the Graz University of Technology distinguishes indirect costs related to research from those related to education by using accounting key codes, which are based on reliable management accounting information (such as square metres for allocating the operating costs etc.).

The research related direct costs are identified through the internal project numbers. Furthermore, the university can identify and group eligible indirect costs such as depreciation, operating or personnel costs of the administration and can allocate them to projects in an appropriate and reliable way (without VAT etc.). This methodology, developed in 2006 guarantees that permanent staff hours are only charged once. In the meantime the university made an adjustment of this approach.

Key facts:

- Five faculties
- Founded 1961, comprehensive mission
- 7.673 students
- Funding structure: 75% national public, 12% national private, 3% international and 10% other funding sources

Drivers:

- Compliance with the EC Framework Programmes (FP6) was a main driver in the decision of the Executive Board to implement full costing (1999).
- National auditing standards also require that universities provide information on costs and expenditure. Such task is facilitated by full costing.
- Full costing was also meant to increase cost awareness and put the focus on better cost recovery when negotiating with public and private funders.
- The existing accounting system facilitated the move towards full costing by providing appropriate data.

Barriers:

- Challenge of securing the commitment of the university's staff in accepting the organisational changes, such as time recording.
- Absence of external support for the design and development of the full costing system.
- Differences in cost recovery brought tensions within consortia, UT being able to identify full costs whereas partners would recover less of the real costs (using an additional cost system).

Specificities of the UT model:

UT differentiates between technical and non-technical faculties by applying different cost rates. This differentiation results from the fact that technical faculties use more expensive equipment, energy, and supporting personnel due to the nature of the research they perform. The analysis of these specificities allows the UT to calculate differentiated cost drivers. Thus the indirect cost rate for technical faculties is higher than for non-technical ones.

Key findings

- Methodology of full costing should be adapted to the needs of universities.
- Costing systems need to remain flexible and take account of diverse needs, structures and contexts.
- Activity based costing is a method that provides common principles and flexibility.
- Different methodologies can lead to the same results.
- Time recording through timesheets is not the only way of accounting for time of staff. Time consumption, cost, reliability and cultural adequacy of the wide range of available methods need to be taken into account.
- European and national funding schemes should accept a wide range of costing systems.

7 Autonomy and accountability

Autonomy, funding and accountability in higher education have long been the subject of international debate, and researchers in this field have identified an enduring policy trend. Amongst many, Professor Michael Gibbons, former Secretary General of the Association of Commonwealth Universities, identified this as “a trend towards more institutional autonomy coupled with requirements for greater accountability for less, or at least for a smaller share of public funding.”

Balancing increased autonomy with accountability in response to increased demands from national governments for cost effectiveness and public assurance of quality is perhaps the major challenge for higher education institutions today. This chapter will show how the project used financial data from a manageably limited but suitably diverse group of European universities, and worked to make it comparable through a complex process, in order to create a pilot study of legal and financial autonomy.

Financial Autonomy

The first step for European universities towards financial sustainability is to identify the full costs of all their activities and projects. The next step in this process is for universities to diversify their income sources. The project showed that autonomy is a driver as well as, in some cases, a precondition for implementing full costing. Full costing itself is the appropriate tool to identify the costs of institutions’ activities and projects and a necessary management tool for modern and autonomous universities.

As stated in the EUA Lisbon Declaration, the principles of university autonomy must accommodate diverse institutional missions and include academic autonomy (curricula and research), financial autonomy, organisational autonomy (the structure of the university) and staffing autonomy (responsibility for recruitment, salaries and promotion). EUA believes that strong universities with a greater autonomy and accountability rather than universities over-regulated by national and European governmental agencies will be able to play their full part in responding to a changing society and its demands and in contributing to the revised

Lisbon Agenda on Growth and Jobs. Many policy positions from the European Commission address autonomy. The Council of the European Union reaffirmed its position in its resolution from November 2007 and stated “*The need for universities to have sufficient autonomy, better governance and accountability in their structures to face new societal needs and to enable them to increase and diversify their sources of public and private funding in order to reduce the funding gap with the European Union’s main competitors.*”

The relevance of a deeper analysis of the concept of autonomy is underlined in the Results of the Public Consultation on the Green Paper published in May 2008 “The European Research Area: New Perspectives”, where it is stated that “*It may be helpful to initiate a Europe-wide debate that can inform the development of a clear set of broad principles that can help define what is meant by HEI autonomy, particularly what this might mean in practice, given that the concept is open to numerous interpretations. A clearer definition of the principles that might underpin autonomy would help institutions and policy makers understand how their systems may need to be reformed and allow progress towards this to be benchmarked.*”

It was not the aim of this project to provide an analysis of all aspects of autonomy, but to analyse in more detail the practical relationship of financial and legal autonomy with financial sustainability. The project collected detailed financial data and analysed the legal status and the ability of universities to act independently. The aim was to analyse the financial status of universities to see whether the degree of autonomy made a difference to their income and cost structure. The core group of universities used in the project was extended by cases provided through the HUMANE network, so that this analysis was based on 18 case studies. The additional universities taking part in the autonomy analysis were: Ecole Centrale de Lyon, France (ECL); the International School for Advanced Studies, Trieste, Italy (SISSA); the University of Eastern Piedmont Amedeo Avogadro, Alessandria, Italy (UNIPMN); the University of Cyprus, Nicosia, Cyprus (CYP); and the University of Karlsruhe, Germany (UKA).

The intention was to explore hypotheses put forward in the general debate on autonomy and funding via a small sample of universities. EUA aimed to provide some evidence to the debate by taking into account the data collected from different institutions in different countries with different financial rules. This pilot project also took account of the fact that institutional autonomy can vary greatly within one country and analysed as well the position of those universities in terms of their legal and financial autonomy.

An institutional study template was designed to cover management issues in order to develop a better understanding of different national settings and the possible effect of this on respective funding situations. This included a set of questions to measure if universities can act independently and carry out specific activities usually attributed to private independent companies without restrictions.

The questionnaire covered the following aspects of autonomy:

- Was the university an independent party in legal disputes?
- Was it able to decide upon membership in non-profit associations/organisations?
- Was it able to found for-profit entities or be a shareholder in such entities?
- Was it able to buy and sell its assets? – If yes, did the revenue received belong to the university and could it be managed as such?
- Did it have the right to obtain loans on commercial bases?
- Did it charge fees to students?
- Did it charge third parties for other educational services, research and development?
- Did it decide upon the number of academic and non-academic positions?
- Did it implement additional benefits for its employees?
- Did it freely manage public funds?

A deeper analysis and comparison showed that in order to discover the real degree of financial autonomy of any university it was not enough to ask questions aimed at establishing what it could do but rather to aim to find out what it could not – in other words to establish the limits of its autonomy. The cases were further evaluated to ascertain if there were any formal procedures in place that limited the ability to act, if external approval was necessary for any particular action and, if this was the case, how long these approval processes took both in theory and practice.

Cases from the EUA conference in Wroclaw in October 2007 showed that a great degree of financial and legal autonomy was, when considered at an operational level, sometimes less effective. An institution that on paper owned its own buildings, could not sell them without the approval of the government. Although this was supposed to be a mere formality, approval procedures made the properties difficult to sell.

The case of Sweden shows, on the other hand, that, despite what appears to be a less autonomous system, universities are able to carry out a diverse range of activities to fulfil their mission. Swedish universities cannot obtain loans on a commercial basis, but they can borrow money from the government with stable conditions. Property is not owned by the institution but rented from the state agencies or private owners which might be regarded as a limitation of autonomy. But procedures to build new premises for the institutions, based on the needs of the institutions, are quite straightforward compared to other countries. Therefore, it is not formal autonomy that matters but the way autonomy is applied in practice. Ownership of real estate might not be necessary as long as decisions about the use of real estate can be made quickly.

7 Autonomy and accountability

Figure 7.1 Some aspects of the universities' autonomy

Legal status	Institution	Be an independent party in legal disputes	Decide upon the membership in non-profit associations or other non-profit organisations	Found for-profit entities or be a shareholder in such entities	To buy and sell its assets	Have the right to obtain loans on commercial bases	Charge fees to students	Charge third parties for other educational services, research and development	Freedom to decide upon the number of academic and non-academic positions
A government agency	UU	Yes	Yes	No	Yes	No	No	Yes, charges fixed by the university	Free
	UEN	No	Yes	With approval	No	Independently	Yes, charges fixed by the university	Yes, charges fixed by the university	Fixed
An autonomous institution of the public sector		Yes			With approval				
	UC	Yes	Yes	No	With approval	With approval	Yes, charges fixed by the government within some limits	Yes, charges fixed by the university	Within limits
	UW	Yes	Yes	No	Yes	Independently	Yes, charges fixed by the university	Yes, charges fixed by the university	Free
An independent legal entity under public law	UC3M	Yes	Yes	Yes	With approval	With approval	Yes, Charges fixed by the government within some limits	Yes, charges fixed by the university	Within limits
	K.U. Leuven	Yes	Yes	Yes	Yes	Independently	Yes, charges fixed by the government	Yes, charges fixed by the university	Within limits
	TU Graz	Yes	Yes	Yes	Yes	Independently	Yes, charges fixed by the government	Yes, charges fixed by the university	Within limits
	TBU	Yes	Yes	Yes	Yes	Independently	No	Yes, Charges fixed by the government within some limits/charges fixed by the university	Free
	NUI Galway	Yes	Yes	Yes	Yes	Within fixed limits/With approval	Yes, charges fixed by the university	Yes, charges fixed by the university	Free
	UTwente	Yes	Yes	Yes	Yes	Independently	Yes, charges fixed by the government / charges fixed by the university	Yes, charges fixed by the university	Free
	UTartu	Yes	Yes	Yes	Yes	Independently	Yes, charges fixed by the university	Yes, charges fixed by the university	Free
Not for-profit independent legal entity under private law	UoL	Yes	Yes	Yes	Yes	Independently	Yes, charges fixed by the university	Yes, Charges fixed by the government within some limits/charges fixed by the university	Free
	IŞIK	Yes	Yes	No	Yes	Independently	Yes, charges fixed by the university	Yes, charges fixed by the university	Free

In Finland, all universities are state-owned. However, they enjoy a high degree of autonomy in teaching and research as well as in their internal administrative affairs. A new "Universities Act" is currently under preparation and should be submitted to the Finnish Parliament during spring 2009, with a possible entry into force in August 2009. The new piece of legislation aims at taking further the universities' autonomy in administrative and fiscal terms to "underline their independence from the State".

The financial and legal status of the Finnish universities is expected to change, as well as the status of their employees. Along with more financial freedom, universities will take on more responsibilities and will be requested to embrace new governance models (emphasising the academic leadership). External funding will be facilitated, as will the possibility for universities to participate in the establishment of enterprises.

Experts point out that this large-scale reform will not go without a need for new types of expertise within the universities or the implementation of new tax laws.

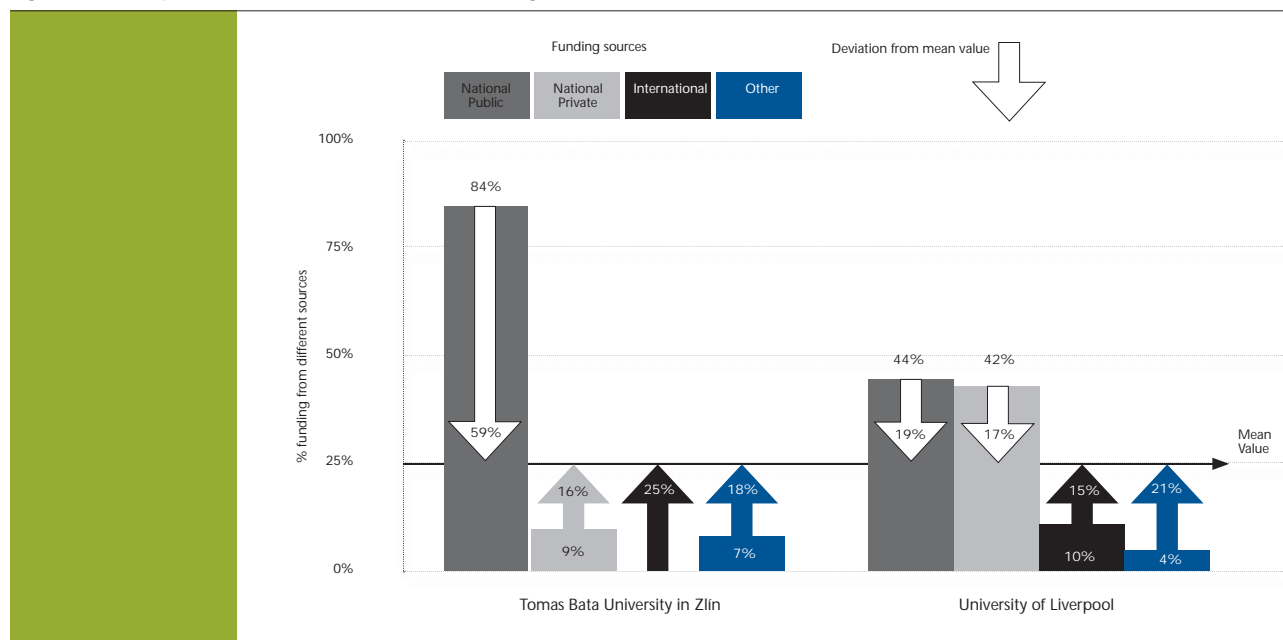
To further analyse the relationship of autonomy with financial sustainability we calculated an aggregate legal and financial autonomy index, which is constructed on the basis of 8 component factors (see Figure 7.1). This index indicates maximum value when the university can act independently, a medium value when some limitations have been imposed and the lowest value when the university cannot make an independent decision or carry out an independent process. This index was analysed in connection with institutional financial data.

Using the total autonomy score and financial data from the participating universities, the project explored the link between the degree of autonomy

and the diversified funding structure of a university in terms of the four funding sources described in chapter 6 – national public funds, national private funds, international funds and other funds.

To rely equally on all of these sources is not necessarily the goal, but the idea behind diversifying funding sources means depending less on any one funding source (in most cases national public funds). Therefore, average deviation from the mean value of the percentage funding from different sources was used as an indicator of the diversity of funding with respect to the above mentioned sources, with a smaller value indicating more diversity in funding.

Figure 7.2 Example of calculation of diversified funding sources



Data analysis shows that there is a positive correlation between autonomy score and a more equal distribution of funding from different sources; it thus confirms the assumption that more autonomous universities are better able to attract funds from different sources (see Figure 7.3).

However, considering the limited sample involved in the exercise and the simple methodology used, the results presented here are at most indicative ones and far from conclusive. The plan is for this pilot project to lead to greater in-depth analysis.

7 Autonomy and accountability

Figure 7.3 Relation between autonomy and diversity of funding sources

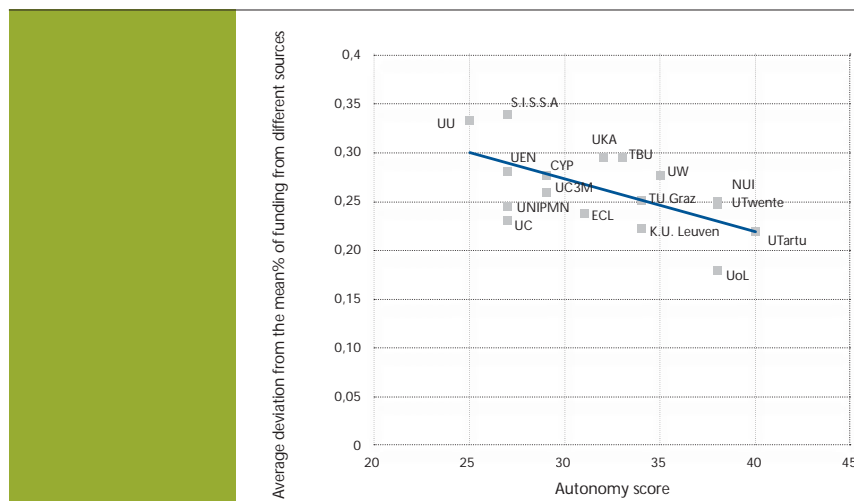
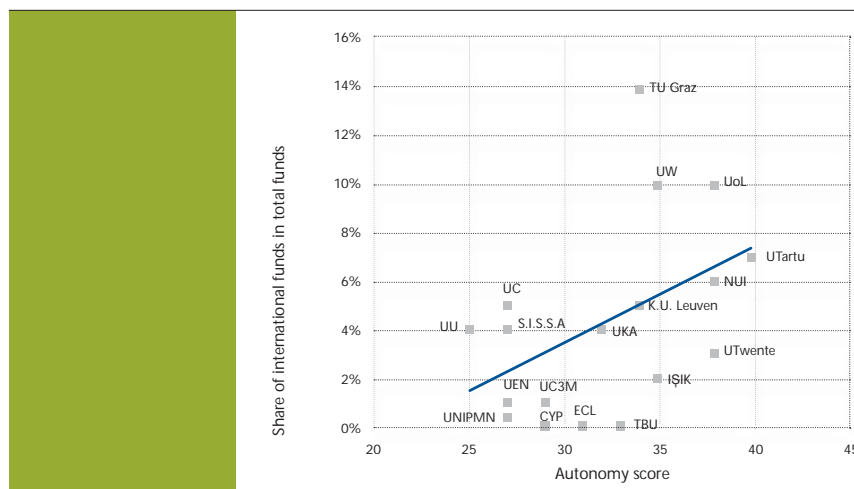


Figure 7.4 Relation between autonomy and attraction of international funds



There was an indication that more autonomous universities were able to attract more international funding (see Figure 7.4) but these remain indications only and suggest the need for further analysis of a larger sample.

► **Recommendation to national governments:** Grant universities the necessary autonomy to act independently.

Key findings

- To discover the full extent of financial autonomy of a university, it is not enough to simply look at its formal status but find out what the limits of its autonomy are.
- Universities need financial autonomy to act quickly in a constantly changing environment.
- There are indications that more autonomous universities have more diverse income streams.
- Establishing criteria is a first step to measure autonomy, but the process needs further assessment. More mapping of financial and legal autonomy is necessary.

Accountability

The topic of accountability has already been touched upon in chapter 5 as one of the benefits and important drivers in implementing full costing. As a counterbalance to the analysis of what autonomy really means for universities, it is essential to analyse the issue of accountability.

An increase in autonomy means direct state control is replaced by stronger regulation, that is, universities face greater accountability demands. Universities have to fulfil targets, demonstrate quality and show what they have done with public funding. But it is obviously not only public funding which has to be accounted for – those universities which survive on private funding must also show how the money has been spent.

After quality assurance and engagement of external stakeholders, full costing is one of the key pillars of accountability and the other side of the coin of autonomy. Full costing shows funders, students and taxpayers what their money was spent on.

Full costing systems also help to build trust between the universities and funders. The example of the University of Palermo (see Focus 11) showed that “accountability pays”, as phrased by their rector Giuseppe Silvestri. Through showing what the university did with received regional funding it gained the reputation of a reliable partner and was able to increase regional funding.

Benefits of accountability – An illustration of the University of Palermo

Focus 11

The University of Palermo is working at modernising its policies, whether related to the allocation of funds or to its human resources. Based on this, the University is able to develop a medium-term strategy of strengthening of the ties between academia and other regional stakeholders such as local administrations and employers' associations. Progress towards full costing makes the University a reliable and accountable partner for these organisations. In other words, the University is building trusted relationships with its local environment, as well as with the European Commission by enhancing its administrative capacities to respond better to EU programme calls.

Early results of these efforts include improved and more numerous partnerships in applying to EU funds, which have brought significant revenues to the University, allowing further developments in both upgrading of facilities and employment of staff. The management was also in a better position to negotiate with local institutions and managed to get historical buildings restored for administrative use by the University. Finally, better social visibility has also contributed to creating new income flows from donations and legacies.

There have been various definitions of what autonomy should comprise but equally there should be a set of principles for accountability. This can be done by first defining what it should not do: accountability should not limit autonomy or lead to complex bureaucratic reporting procedures but to appropriate ways of showing expenditure of public and private funding. (See Focus 12: Accountability and complexity of rules in Spain)

The amount of data gathering and reporting for received funding needs to be proportional to the amounts received. Many funding programmes do not alter their rules of participation and requirements according to the amount of funding provided.

Professor Hans-Ulrich Kuepper, expert in costing in Higher Education clarified at the project's expert conference the importance of designing models that are as simple as possible rather than working on complex models that do not necessarily reflect reality more accurately. The money spent on such unnecessarily complex systems would not be wisely spent. Quite often there is a danger that requirements set by funders would lead to the design of systems that replace reality with a process. Legitimation through complex processes is not an ideal way to reach accountability for public funding.

7 Autonomy and accountability

Accountability and complexity of rules in Spain

Focus 12

To justify the proper use of funds for research activities or in investments (buildings, equipments...), Spanish public universities are sometimes subject to very complex procedures. Regional or National authorities or agencies might ask either for:

- a certificate of the expenses incurred and a detailed list of these expenses
- the same certificate + a copy of all invoices
- the same certificate + a copy of all the invoices and a copy of the bank account statement with the payment of each expense
- the same certificate + a stamped and signed copy of all the invoices and a copy of the bank account statement with the payment of each expense
- copies of all the tender files (for instance for tenders bigger than 50.000)
- all originals to be sent to their offices to check them.

In some agencies this bureaucratic and formal approach is subject to the discretionary authority of the civil servant in charge of the expenses control or to the specific rules of the grant.

Even the eligibility timing rules can be discretionary: in some cases a purchase order might be enough, in some others the invoice is needed, sometimes the payment has to be done before the deadline.

In addition universities are audited to check the original documents, the equipment and the payments.

One significant aspect of accountability is that, with an increase of different sources of funding, there is a danger of limiting the flexibility of institutional financial and investment strategies. A very common condition for financial autonomy via the state is a lump sum or block grant funding that allows the university to shift resources around internally according to financial and strategic needs. The increase of competitive project-based funding undermines this flexibility, as grants are given for a specific purpose. In theory universities are not entitled to use the funds for other purposes. As many leaders of institutions pointed out the necessity to cross-finance certain activities, there needs to be an open discussion about this instead of more and stricter rules.

A portfolio, with some over- and some under-funded activities, requires flexibility in an institution's resource management. Funders need to accept that they will not be able to target all their funding towards a specific aim – an autonomous university will bring with it a free management of resources – as long as the correct activities are undertaken on the quality level.

Key findings

- Balancing enhanced autonomy with accountability in response to increased demands on universities is a challenge for higher education institutions today.
- There is a danger of designing complex models that do not necessarily reflect better the reality.
- The issue of cross financing/subsidising different activities needs to be understood and an open discussion initiated about this instead of more and stricter rules.
- There is a risk that, through accountability, universities may be subject to unduly complex reporting.

► **Recommendation to European Institutions, national governments and other Funders:** Balance the need for accountability with less complexity of the information required in competitive funding schemes.



An indicative roadmap to full costing

The following is by no means intended to serve as an exhaustive list of recommendations. It is rather meant to be used as a toolbox or an indicative roadmap to help universities that wish to implement full costing to start off in the right direction. These guidelines cannot replace professional advice and guidance within the national context and framework. As the study identified huge diversity in the different national systems, it is not possible to provide guidelines that would apply in each country. Nevertheless, the project found some general aspects to be considered in the implementation of full costing. The following list is based on the common success factors and pitfalls of participating universities.

1. Define the objectives for the university

Define why the university is implementing full costing, taking into account all the possible reasons to design the system accordingly and how to maximise benefits from the system. It will avoid major and costly restructuring and adaptation of the system later on.

Purposes:

- To fulfil the requirements of external national and European competitive funding schemes to recover a higher percentage of indirect costs for projects.

In this case:

- analyse the percentage of income from each funding scheme
- analyse the requirements of the relevant funding schemes
- contact funders to check if the systems need approval, or a certification
- check whether the policy of the funder is subject to change

- To allocate budget internally
 - To steer by incentives
 - To undertake activity analysis
 - To analyse structural units
 - To benchmark the university with the sector
 - To have relevant decision basis for investments
 - To report to funding agencies
 - To negotiate with public funders
 - To negotiate with private funders (pricing)
-

8 An indicative roadmap to full costing

2. Status analysis

- Identify existing costing and accounting procedures
 - Check availability of data
 - Consider the profile of the university:
 - a. Legal status
 - b. Size (number of students)
 - c. Academic profile
 - d. Ownership of real estate
 - e. Funding sources
 - f. Governing structure
 - g. Cost structure
 - h. Status of autonomy
-

3. Scan the environment

- Have others with a similar profile and objectives already started the process?
 - Is there room for partnerships and joint initiatives?
 - Are there funding opportunities to help with the implementation? If there are none, proceed to raise awareness through consulting examples of best practice and communicate with public funders on the advantages of implementing full costing.
-

4. Setting up the project management

- Gain the commitment of university leadership and engage a “change champion” from the academic community from the outset
 - Include selected and committed staff from different parts of the university
 - Identify in-house expertise or engage external support if necessary
 - Ensure communication on the progress and purpose of the project throughout the implementation process
 - Set realistic estimates of the time scale
-

5. Define settings of costing methodology

The following description is based on Activity Based Costing as this approach was the most common in universities that have already implemented such a system.

a. Identify activities and choose how they are to be categorised (detailed vs. general)

- Teaching related activities
 - Teaching students
 - Undergraduates
 - Graduate students
 - Research related activities
 - Other
 - Public services (library, museums)
 - Business activities (publishing company, bookshop, etc)
-

b. Choose cost objects such as

- Support type activities
 - Courses or subjects or credits
 - Research projects
 - Student types (i.e. international students)
 - Services
-

c. Define activity cost drivers

- | | |
|---|--|
| → Time spent by academic staff | → Number of research projects |
| → Time spent by other staff | → Number of students |
| → Number of academics in FTE | → Number of credits |
| → Square metres | → Number of new enrolments |
| → Number of staff in FTE | → Number of student counselling sessions |
| → Number of lecture hours | → Number of applications |
| → Number of tutorial hours | → Other..... |
| → Number of examinations | |
| → Number of graduations | |
| → Number of research grant applications | |
-

8 An indicative roadmap to full costing

d. Design of allocation method

- Identification of direct costs
 - Allocated straight to the final cost object or activity
- Identification of indirect costs and allocation in cost pools via cost drivers
 - In one step
 - In more steps

Cost pools example 1 (Liverpool)

- Academic services
- General educational expenditure
- Administration and central services
- Staff and student facilities

Cost pools example 2 (Sweden)

- Management
- Administration of education and research
- Finance and personnel administration
- Infrastructure and services
- Libraries

- Determination and allocation of staff time (for details see Focus 7, p.62, and Focus 8, p.63).

e. Define the cost basis

- Retrospective: starting point is, for example, last year's financial statements
 - Actual: current costs identified out of financial systems
-

6. Manage the data

a. Define the data necessary before starting

- Headcount/FTE of students, staff
- Usage of space
- Time spent on activities
- Other

b. Define the **modalities of data collection**

- Software
- Data warehouses

c. Identify how often to collect/update the following data

Depending on ease of access to the data, biannual or annual data collection can be used for headcount/FTE of students and staff for instance, while data related to time spent on activities can be collected at regular but longer intervals, i.e. every third year on a rolling basis (one third every year).

d. Determine the means to **ensure the quality** of data

- Reasonableness checks: Tests to determine whether a value conforms to specified criteria. A reasonableness check can be used to eliminate questionable data points from subsequent processing.
 - Variance analysis: Shows the planned costs for a period and the actual cost for this period, and analyses the differences, or variances, between the two. It also gives an explanation of some of the reasons for the difference between planned and actual costs.
 - Internal & external audits
-

List of experts and participating universities, etc.

ANNEX 1

a) Case studies

University case studies from Expert group:

Catholic University of Leuven, *Belgium*
Friedrich-Alexander University of Erlangen-Nuremberg, *Germany*
Graz University of Technology, *Austria*
İŞIK University, *Turkey*
National University of Ireland Galway, *Ireland*
Tomas Bata University in Zlín, *Czech Republic*
University Carlos III of Madrid, *Spain*
University of Coimbra, *Portugal*
University of Liverpool, *UK*
University of Tartu, *Estonia*
University of Twente, *The Netherlands*
University of Warsaw, *Poland*
Uppsala University, *Sweden*

Additional case studies:

The Robert Gordon University, *UK*
University of Amsterdam, *The Netherlands*
University of Ljubljana, *Slovenia*
University of Maastricht, *The Netherlands*
University of Palermo, *Italy*
University of Rome, *Italy*
Vrije Universiteit Brussels, *Belgium*
Wroclaw University of Technology, *Poland*

Case studies provided through HUMANE:

Ecole Centrale de Lyon, *France*
SISSA, International School for Advanced Studies, *Italy*
University of Cyprus, *Cyprus*
University of Eastern Piedmont Amedeo Avogadro, *Italy*
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Xavier Puente Chaudé, Finance Director, University Carlos III of Madrid, *Spain*
Diana Pustula, University of Warsaw, *Poland*
Wim Ruiter, Financial and Economy Affairs, University of Twente, *The Netherlands*
Thomas A. H. Schöck, Chancellor, Friedrich-Alexander University of Erlangen-Nuremberg, *Germany*
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List of acronyms

ANNEX 2

ABC	Activity-Based Costing
CYP	University of Cyprus
EC	European Commission
ECL	Ecole Centrale de Lyon
EUA	European University Association
FEC	Full Economic Costs
FP6 FP7	6 th / 7 th Framework Programme for Research and Technological Development of the European Union
FTE	Full Time Equivalent
HEFCE	Higher Education Funding Council for England
HEI	Higher Education Institution
HUMANE	Heads of University Management & Administration Network in Europe
ICT	Information and Communication Technologies
IFAC	International Federation of Accountants
IMHE	Institutional Management in Higher Education (OECD Forum on Higher Education)
IWT	Institute for Science and Technology (Flanders, Belgium)
KU Leuven	Catholic University of Leuven
NSF	National Science Foundation (United States)
NUI Galway	National University of Ireland
OECD	Organisation for Economic Co-operation and Development
R&D	Research and Development
SISSA	International School for Advanced Studies
SUHF	Association for Swedish Higher Education
TAS	Time Allocation Surveys
TBU	Tomas Bata University
TEFMA	Tertiary Education Facilities Management Association
TRAC	Transparent Approach to Costing
TU Graz	Graz University of Technology
UNIPMN	University of Eastern Piedmont Amedeo Avogadro
UC	University of Coimbra
UC3M	University Carlos III of Madrid
UEN	Friedrich-Alexander University of Erlangen-Nuremberg
UKA	Univeristy of Karlsruhe
UoL	University of Liverpool
UTartu	University of Tartu
UTwente (UT)	University of Twente
UU	Uppsala University
UW	University of Warsaw
VAT	Value Added Tax

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